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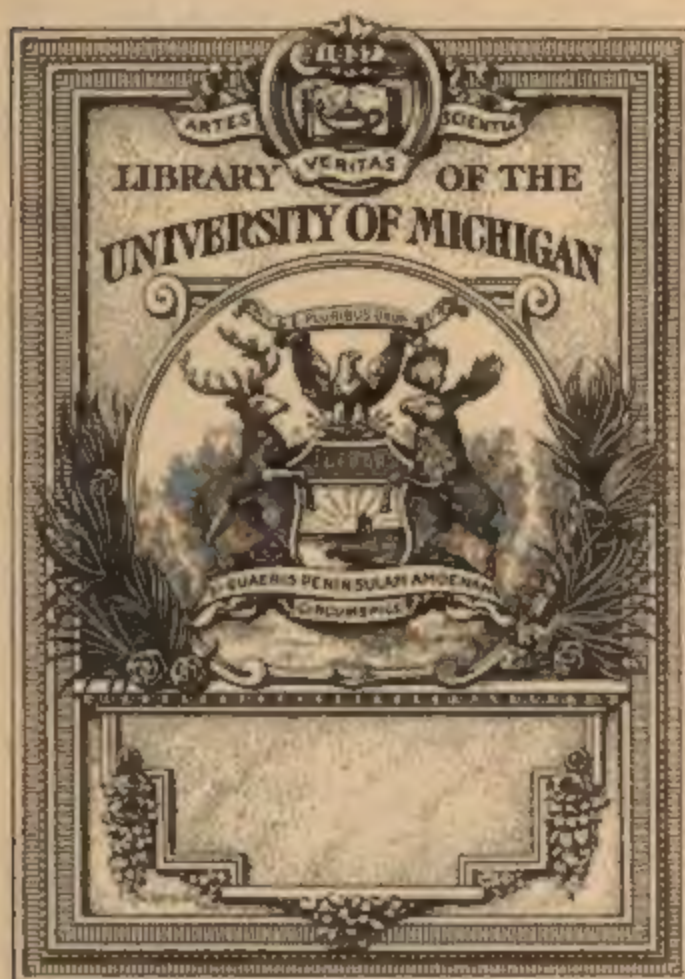
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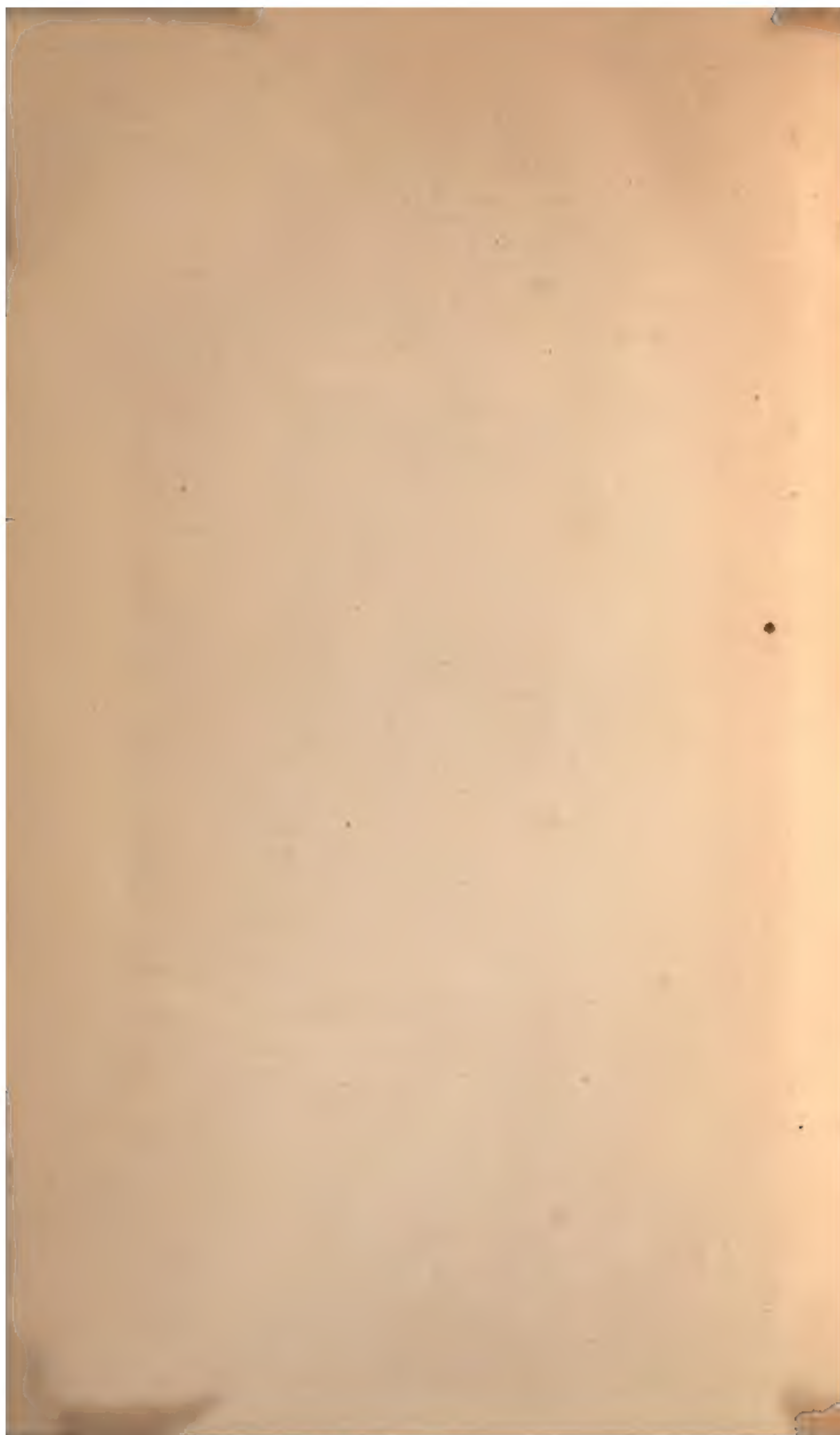


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THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING

**A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS.**

TOGETHER WITH

**A SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND
THE COLLATERAL SCIENCES DURING THE SAME PERIOD.**

EDITED BY

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Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
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ABSTRACT OF THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A) HYGIENE.

ART. 1.—*On the Prophylactic Influence of Quinia.* BY DR. BRYSON, R.N.

(*Medical Times and Gazette*, Jan. 6, 1854.)

“IT has long been a standing rule in the Navy,” writes Dr. Bryson, “enjoined by the 9th Article of the Surgeons’ Instructions, that when men are to be sent on shore, in tropical climates, to procure wood and water, or on other laborious duties, the surgeon, if he consider it advisable, is to recommend for each man, previously to his leaving the ship in the morning, a dram of powdered bark in half a gill of wine, and the like quantity of wine after the mixture; or, if there be no wine on board, one eighth of a gill of spirits, mixed with the fourth of a gill of water, is to be used in lieu of it; and the same proportion of each is to be given to the men on their return to the ship in the evening. Though this rule has been pretty generally observed in some vessels, particularly in unhealthy climates, and in localities known to abound in the exciting causes of fever, still it has nearly as often been neglected, because, in many instances, the bark did not appear to have had any influence whatever in preventing fever; while in others it appeared so doubtful, that many intelligent medical officers lost all faith in it; still there were cases occasionally occurring, which showed that its protective influence could not be disputed. For instance, twenty men and one officer were employed on shore for one day at Sierra Leone; to the former, bark mixed with wine was given; but the latter refused to take it. He was the only person of the whole party who was subsequently attacked with fever.* Again, two boats’ crew were detached from the *Hydra* to examine the river Sherbro. They remained away a fortnight, and, during the whole time, took bark and wine, as directed by the instructions; yet, though the locality is a most dangerous one, not one case of fever followed; but another boat’s crew, who were absent for two days only, in the same locality and at the same time, who did not take bark, were all attacked except the officer in command of the boat.”†

* * * * *

Convinced that the preventive influence of bark and quinia had never been fairly tried, Dr. Bryson, in 1847, in a Report on the African Station, suggested that quinia should be given, not exactly on a different plan, though with a somewhat different object in view, and this suggestion was adopted; and the results, upon the whole, are most satisfactory.

A strong, spirituous solution of amorphous quinia was mixed with several

* Report on African Station, p. 49.

† *Ib.* p. 218.

pipes of wine, in the proportion of four grains of the salt to an ounce of the wine; a number of cases, or boxes, was then made, capable of holding a certain number of bottles; these, on being filled with the medicated wine, one or two boxes, according to the size of the vessel, were supplied to each cruiser employed on the African station. The object in supplying the cruisers with medicated wine-chests was, that they might at all times be ready and at hand to put into boats suddenly required to proceed on detached service. Thus the quinia—which, when carried in paper, or bottles, was not only apt to be lost or blown away, but had to be given in uncertain doses, and therefore could not be husbanded—was secured, and the wine was effectually destroyed for any other purpose. Instructions for the administration of the wine according to the above plan were placed in each box, and the medical officers were requested to note and report on its effects. The following extracts will show the estimation in which it is held by the medical officers on the African station:—

“I found bark and rum given to the men going away on duty of the greatest benefit; but, from the bulk of the bark, and the small quantity of the rum, if the men were not watched closely, they would not take the draught at all. All that could be desired is now obtained in the medicated wine.”*

“Eighteen men were detached in the pinnace and whaler to cruise off Banda Point and Mayamba Bay, in the months of February and March. They were absent for twenty-four days. I directed an ounce of quinia wine to be given daily to each person, and it is satisfactory to state that no sickness whatever occurred.”†

“Two boats’ crews have been constantly on detached service, close in shore, where the effluvium, wafted from the land by the morning breeze, is very offensive, and highly pregnant with the odor of decomposing vegetable matter. The immunity from disease of those engaged in this service, I attribute chiefly to the regular use of quinia wine and bark together with protection by good awnings.”‡

“The boats remained in the Pongas one night, and the crews,—officers and men amounting to twenty-four in number,—were exposed to the sun the greater part of two days. Quinia-wine was given in ounce doses for eight days afterwards, and I attribute the exemption of the greater part of the people from the fever to its use.”§

It may be stated, that these extracts afford no proof of the preventive influence either of bark or quinia beyond the opinion expressed by the several reporters; but when taken in connection with those which follow, they appear in a different light, and form a kind of presumptive evidence which cannot well be rejected.

“During the time the boats were up the Scarcies, I gave an ounce of the solution of quinia to each man daily, and continued it for ten days afterwards; and, although the rains were commencing, and the men were often wetted through, I had not a case of illness.”

“The boats were frequently away cruising in the mouths of rivers, or else blockading the coast between Delagoa Bay and Mozambique. I had frequent opportunities of observing the prophylactic effect of the quinia wine. In only one instance did fever follow its use, and that was of a mild character. This contrasts strongly with the seizure of a whole boat’s crew with fever in March, 1851, when no wine was administered, as it was lost in crossing the bar of the river. The men greatly prefer it to the bark.”||

“The gig was detached in the Boom-kittam; quinia wine, in the usual dose, was given night and morning, and continued for fourteen days after its return. A boy (Wm. Roberts), from dislike to the quinia, took at most but three doses. He was the only one of the boat’s crew that suffered from fever, which occurred ten days after leaving the river.”¶

“While coaling at Sierra Leone, the weather was very wet, and on their several duties both men and officers were unavoidably much exposed to the rain. An extra allowance of grog and quinia was given to each man, and continued afterwards for a day or two to such as seemed to require it. Mr. ———,

* Dr. J. Walsh.

† William Webber, Esq.

‡ Mr. Beaumont.

† Thomas Pickthorn, Esq. Assistant-Surgeon.

§ J. A. Corbett, Esq.

¶ Return from Teazer, March, 1853.

however, placed no faith in its preventive influence, and would not take it, and he alone suffered an attack of fever, which proved fatal."*

"A boat's crew, belonging to the *Pluto*, were employed for twenty-five days up the Congo. The wine was regularly supplied, but it caused one of the men to vomit, and therefore he discontinued its use; he was the first to suffer from fever. Only one other case occurred among the crew.

"During our stay in the river Lagos quinia wine was regularly offered to the men morning and evening,—all took it, I believe, except two midshipmen and two seamen belonging to the galley. These four persons subsequently each suffered a severe attack of fever."† While, in the whole force, consisting of upwards of 220 men, there occurred only a few other cases of trifling importance.‡

"When in the river Lagos the men had more than an ounce of quinia-wine morning and evening, and not a case of fever occurred, though the vessel was nine days in the river.§

"Thirty-six men belonging to the *Water Witch* were employed at the attack on Lagos; they were in the river four or five days, and, with the exception of three, all took quinia-wine while there, and for fourteen days after they left it. Of the whole number, five only were attacked with fever, namely, the three men who did not take the wine, and other two, who most imprudently exposed themselves to the sun, and bathed while much heated by violent exercise."

"On the morning of the 25th of November, seventy-seven men from this ship went up the river Lagos, to attack the town. Before starting, every officer and man were ordered to take a glass of quinia-wine; and a sufficient quantity was put into the boats to repeat the same at night. All, to the best of my knowledge, took it, with the exception of Mr. D., master's assistant, who rather plumed himself on having escaped *taking a dose of physic*. This young gentleman, on the tenth of December, just a fortnight after, was seized with a violent attack of remittent fever; and of the whole number who entered the river, he is the only one who, up to this date (the 7th of Jan.), has been attacked."

Among the reports received from the African coast, there are a few which mention the failure of quinia-wine as a preventive of fever; but by far the greater number affirm, that already it has been of most essential service, especially when administered according to the instructions; and that it should invariably prove effective against long-continued exposure in open boats, by night and day, amid the effluvia arising from the rotting slime of a mangrove swamp, is surely more than ought to be expected. There are bounds or limits to most things in this world of ours, at least so we are led to believe. The failure of quinia, therefore, in cases similar to the above, particularly if accompanied by inebriation, need not excite astonishment. But, after all, on carefully examining the reports which mention its failure, it appears that, with hardly an exception, there was some error committed in administering the medicated wine; it was either not given in sufficiently large doses during the exposure to miasmata, or its use was discontinued long before the incubative period of the fever had expired; and though it was supposed to have failed, or to have been only partially effective, it is nevertheless admitted, that the fevers which took place were far less severe and less fatal than usually happens when no quinia has been administered.

One remarkable fact remains to be stated. By an interesting and ably-drawn up report received from Dr. Burton, the surgeon of the flag-ship on the African station, it appears, that the number of deaths among the Europeans in the squadron has for several years past been gradually diminishing, until it has come down to an equality with that observed on the more healthy stations. During the preceding year, the ratio of deaths from disease to the 1000 of mean force, only amounted to 6·9! A result so unexpected must necessarily afford the most unqualified pleasure to those who take an interest in the abolition of that "horrid trade" which has brutalised some of the fairest portions of the globe, and rendered the coast of Africa a kind of Pandemonium, fit only to be inhabited by the offscourings of civilized society. Still, though the general use of quinia-

* A. Sibbald, Esq.
† Mr. Carpenter.

† Mr. Heath, Surgeon.
‡ Journal of the Teazer.

wine as a preventive of fever has most unquestionably been productive of much good, it is not intended to claim for it a tithe of the credit which is due for the improved state of health in the protective squadron; the great diminution in the ratio of mortality from fever is mainly, if not entirely due to the admirable mode in which the duties of the station have been carried out by the justly-esteemed Commander-in-Chief, Rear-Admiral Bruce, who, in driving the slave dealers from their strongholds, has never forgotten the necessity of providing for the welfare of the white men intrusted to his care.

ART. 2.—*On Vaccination as a Safe and Efficient Prophylactic.*
By Dr. EDWARD SEATON.

(*Report on Small-pox and Vaccination, May, 1853.*)

[The following interesting quotation is from the very admirable Report on the state of Small-pox and Vaccination in England and Wales and other countries, and on Compulsory Vaccination, presented to the President and Council of the Epidemiological Society by the Small-pox and Vaccination Committee, in March, 1853.]

“ We are ourselves satisfied, and it is the concurrent and unanimous testimony of nearly 2000 medical men, with whom we have been in correspondence, that vaccination is a perfectly safe and efficient prophylactic against this disease.

“ This proposition we hold to be proved,—

“ 1. By the general immunity with which it is found that those who have been vaccinated can mingle with small-pox patients, a fact so familiar that we do not feel that we need adduce any illustration of it.

“ 2. By the gradual decrease which has taken place in the mortality from small-pox, as compared with the mortality from all causes, since vaccination has been introduced and been generally received. This is illustrated in the following tables:—

“ (A.) Table showing the average of deaths from small-pox out of every 1000 deaths from all causes, within the bills of mortality, for decennial periods, during the last half of the last century (the half century preceding vaccination).

For the 10 years ending 1760	.	.	.	.	100
“ “ 1770	.	.	.	.	108
“ “ 1780	.	.	.	.	98
“ “ 1790	.	.	.	.	87
“ “ 1800	.	.	.	.	88

“ (B.) Table showing the average of deaths from small-pox out of every 1000 deaths from all causes, within the bills of mortality, for decennial periods, during the first half of the present century (the half century succeeding the introduction of vaccination).

For the 10 years ending 1810	.	.	.	.	64
“ “ 1820	.	.	.	.	42
“ “ 1830	.	.	.	.	32
“ “ 1840	.	.	.	.	23
“ “ 1850	.	.	.	.	16

“ The steady progression indicated in the second of these tables is very remarkable, and is strictly in accordance with what has been observed to take place in foreign countries. In further illustration of this subject, we have contrasted in the following table the mortality from small-pox in various European states, for periods specified (generally of 10 years), before and after the introduction of vaccination. The returns from which this table is compiled, will be found in the ‘Tables exhibiting the Mortality, &c., from Small-pox, in various countries in Europe,’ printed at the end of this report.

Table showing the Average of DEATHS from SMALL-POX out of every Thousand Deaths from all Causes, in various European Countries, for Periods specified, before and after the Introduction of Vaccination.

County or Province, &c.	Before Vaccination was introduced.		After Vaccination was introduced.	
	Period.	Small-pox Deaths per 1000 Deaths.	Period.	Small-pox Deaths per 1000 Deaths.
Lower Austria,	10 years ending 1786	67	10 years ending 1846	7
Upper Austria and Salzburg,	"	46	"	6
Styria,	"	31	"	10
Illyria,	"	21.75	"	7
Trieste,	"	142	"	5
Tyrol and Voralberg, . .	"	42	"	4
Bohemia,	"	58	"	1.33
Moravia,	"	54	"	1.75
Silesia (Austria), . . .	"	66	"	2
Gallicia,	"	38	"	9.5
Prussia, Eastern Provinces,	1776-80	111	1832-50	12.33
" Western Provinces,	1780	75	"	10
Posen,	"	71	"	22.50
Brandenburgh,	1776-80	82	"	8.75
Westphalia,	"	85	"	6
Rhenish Provinces, . . .	"	33	"	3.75
Berlin,	1781-1805	77	"	5.50
Saxony,	1776-80	27	"	8.33
Pomerania,	1780	74	"	7.50
Prussia,	1776-80	82	"	7.50
Sweden,	1790-1800	71	1840-50	2.7
Average, . . . . .	. . . . .	66.5	. . . . .	7.26

"3. In those states and kingdoms in which, by compulsory legislation or otherwise, vaccination is most efficiently carried out, the mortality from small-pox is the least."

ART. 3.—On the Comparative Exemption of Publicans from Phthisis.
By Dr. ATKINSON, Physician to the Wakefield Dispensary.
(The Lancet, Feb. 25, 1854.)

"I have endeavored," writes Dr. Atkinson, "to furnish an approximation to correct results by examining the registries of deaths in Wakefield for the last ten years, commencing on the 1st of May, 1843, to the 1st of May, 1853; and although I am aware the numbers are far too small to justify a decisive conclusion, they are, as far as they go, satisfactory. All will admit that perhaps no class takes more alcoholic stimulants, in proportion to the rest of the inhabitants, than publicans. Thus I have selected these out by way of experiment, to ascertain the relative mortality from phthisis in this class of men. I have arranged the deaths under the four following heads:—

Deaths from general diseases,	8329
" " phthisis,	541
" " general diseases in publicans,	25
Phthisis in publicans,	2

"It appears, therefore, from the above figures, that rather more than one-

sixth of the deaths amongst the whole population of the town arise from phthisis, whereas in publicans scarcely one-twelfth die from this disease during the same period. But these numbers, if taken without correction, fall far short of representing the real disparity between the deaths from phthisis among publicans, as compared with the deaths occurring from phthisis among the population at large; for the 3329 represents the deaths at all ages; but as about one-half of that number occurred in persons under fifteen, and as persons rarely die of phthisis under fifteen, and as publicans are all above fifteen, the figures should stand thus:—

Deaths above fifteen,	1665
“ from phthisis,	541
Publicans' deaths,	25
“ “ from phthisis,	2

Showing a general mortality among adults from phthisis of rather less than 1 in 3, and in publicans, 1 in 12½. Now, allowing great latitude for accidental mistakes, still the mortality by phthisis in publicans is comparatively small. What a more extensive investigation would prove, it would be difficult to say; however, there is here sufficient to demand further inquiries.”

(B) ACUTE DISEASES.

ART. 4.—*Upon the Treatment of Fever by Stimulation.* By
Dr. BRINTON, Physician to the Royal Free Hospital.

(*The Lancet*, Dec. 17 and 24, 1853.)

The subjoined quotations, which are taken from a paper on the general treatment of fever, are of great interest and importance as connected with the remarks of Dr. Todd on the same subject.

Dr. Brinton states it to be one of the chief objects of his paper—“to record the successful results of my careful and deliberate trial of a system of stimulation which was proposed some years ago by my friend and former colleague, Dr. Todd. This consists in the frequent exhibition of very small quantities of brandy diluted with water, alternately with beef-tea and other fluid food. The *rationale* of this plan I presume to be that ordinary port wine is a mixed fluid of uncertain strength, which requires digestion, and has the additional disadvantage of sometimes acting upon the bowels; while brandy is taken up at once by the veins of the alimentary canal. The smallness and frequency of the dose in which the stimulus is administered are equally important; for it makes every difference to the patient whether his exhausted system is sustained by minute doses of alcohol every hour or half-hour, or partially intoxicated three or four times in the day. In the latter case, the reaction between each of the separate doses sometimes places him in a far worse position than if no stimulus whatever had been given.

“But whatever may be thought of this explanation of the above plan—for which it ought to be stated that I alone am responsible—few who had seen the cases under my care in the Royal Free Hospital could have doubted its efficacy. And one point of great importance respecting it is the fact that, at this stage of the disorder, severe febrile symptoms do *not* contraindicate its use. Repeatedly have I seen all the appearances of fever clear off as though by magic under a quantity of stimulus (sometimes amounting to twenty-four ounces of brandy daily), which might well alarm any one who had not had practical experience of its effects. Whether its efficacy might not be reduced to some more exact and physiological statement than that of ‘supporting the strength,’ I hardly dare inquire, lest it should lead me to a topic which, though interesting, would be irrelevant here,—the relation of fever to combustion and animal heat. Thus much, however, may be pointed out, that alcohol is comparatively a very pure

carbonaceous diet, and an agent which appears to check the process of waste in all tissues.

“The additional treatment adopted with reference to the fourth class of cases may be described as chiefly directed to the intestinal symptoms characteristic of typhoid. Here, again, I have to own that one of the chief features of my treatment has been derived from my former teacher, Dr. Todd, who has long laid great stress on the use of turpentine in these cases. The distressing pain and tympanitis is generally much relieved by stupes, consisting of turpentine sprinkled on a hot, wet flannel, and applied to the region of the cæcum. One great advantage possessed by these applications over blisters consists in the frequency with which they may be repeated. The same drug may also be administered by the mouth and rectum. But of the two, the enema appears to be more efficacious than the mixture. And even apart from this fact, since the majority of these cases also require the very frequent administration of brandy and beef-tea, it is preferable in all but extreme cases to leave the stomach free for the latter by giving the enema only. To both enema and mixture I have generally added full doses of the vegetable astringents with great advantage. And it is scarcely necessary to allude to the value of opium, which, unless expressly contraindicated by the cerebral symptoms, should generally be an ingredient of the glyster. The following prescriptions are those which figure most frequently in my notes:—Spirits of turpentine, five minims; tincture of catechu, half a drachm; mix, and afterwards add one ounce of infusion of krameria; make into a draught, to be taken every fourth hour. Spirits of turpentine, thirty minims; tincture of catechu, two drachms; tincture of opium, fifteen minims; mix; to be added to two ounces of decoction of starch, for an enema.

“The small bulk of this enema gives it a better chance of its being retained, which it very often is. Its efficacy in controlling the diarrhœa is remarkable;—so much so, that while the febrile symptoms continue very prominent, I have generally suspended its use as soon as it has reduced the evacuations to three or four per day, having reason to doubt the propriety of checking them where they do not threaten any serious drain to the system.

“The efficacy of the treatment just sketched out may be best imagined from an example like the following.”

M. W—, æt. 42, was admitted into the hospital, February 14, 1853, at about the tenth day of typhoid fever. When brought in she might almost have been termed moribund. Her skin was of a brick-red hue, and of a pungent, dry, but not excessive heat. Her pulse of about 130 per minute, was feeble, fluttering, and at times scarcely perceptible. She lay supine and unconscious; breathed stertorously; was blind and deaf; in short the only relics of the animal functions were evinced by her still executing the movements of swallowing, and moaning when her tympanitic belly was pressed in the region of the cæcum. Her urine and fluid fæces were passed involuntarily, and the latter at very frequent intervals. The integuments over the sacrum had sloughed.

She was ordered half an ounce of brandy with one ounce of water, every hour, and beef-tea as frequently in the alternate half hours. A turpentine stupe was applied to the belly, and the above enema administered. The two latter remedies were repeated in the course of two or three hours. The distressing state of the bladder and nates was also attended to. But I did *not* apply blisters, as perhaps I ought to have done: for not only did the state of the pulse and bowels render me less desirous of doing so, but, to say the truth, I had grave doubts whether the patient would live till the blister rose, and was also very anxious to concentrate the nurse's whole attention on the sedulous repetition of the stimulants and enemata.

On my next visit the patient was still living, but without any apparent amendment. Finding that she had swallowed better than I had expected, the quantity of brandy was raised to eighteen ounces, and, after a few hours, to twenty-four ounces per day, to be divided into rather larger and more frequent doses than before.

The next day the stools were no longer passed involuntarily; and the pulse was decidedly improved in both force and rhythm, though nearly as frequent as

before. She was sensible of the noise made by shouting loudly in her ear, but seemed not to be capable of appreciating the words used. Her skin was rather paler, and much less pungent to the feel.

From this time she gradually amended in every respect. The diarrhœa soon diminished in frequency, but continued for a fortnight to claim the most constant and watchful attention. But long before this the patient had recovered her senses, her eye had brightened, her skin had cooled down, her pulse had dropped, her tongue had peeled, she had perspired, and was, in fact, convalescent. Her recovery was, however, very much retarded by the presence in her bladder of a quantity of rough precipitated phosphates, which had doubtless accumulated there during the distension and paralysis of this organ, that had preceded her admission. Very little alleviated by treatment, the intense pain and partial hectic produced by this mortar-like mass were terminated by its gradual discharge piecemeal through the urethra, and she left the hospital cured.

Another case which may well illustrate the good results of the same plan is that of a woman who had been subjected to an operation for the relief of an ulcerated leg by my colleague, Mr. Gay. She was attacked with typhoid fever, and transferred to my care. The fever was very severe, and all healing action in the leg was already suspended, when another grave disorder supervened, in the shape of erysipelas of the limb. This spread upwards from the ulcer of the leg, and terminated in abscesses of the thigh and groin. In spite of all these serious complications she made a very fair recovery, so as to be discharged from the hospital cured of all her complaints, and with a leg which did great credit to Mr. Gay's new operation, its large ulcer of many years' standing being covered by a firm cicatrix. I believe my esteemed colleague once or twice felt rather nervous on seeing the large quantity of brandy our patient was taking daily; and, to say nothing of the stimulus and support she received, I am persuaded that, unless the characteristic diarrhœa had been instantly controlled, this case must have been lost.

"I might multiply instances in which a similar treatment has been attended with scarcely less striking results, but prefer to end this sketch by a numerical summary. Of these 77 cases of fever, 8 died. Of these 8 deaths, 4 were due to typhoid, and 4 to typhus. As the typhoid cases were about five-sevenths of the whole, the mortality of this disease, which is usually regarded as the more fatal, was only two-fifths that of typhus. The reader will probably be surprised at this difference, and may perhaps doubt whether one can lay any stress upon so small a number as 4. But the real comparison is that between 53 and 23. With this qualification I can share his surprise and doubt, which at present only allow me to conjecture, what longer and wider experience must refute or confirm—namely, that while we can often control the diarrhœa of typhoid, and remedy its exhaustion, the cerebral symptoms of the second and third weeks of severe typhus will frequently defy all the resources of our art.

"Returning to the general results of the treatment of both kinds of fever, 8 deaths in 77 cases will represent a mortality of about 10·4 per cent. I think this would generally be regarded as a low rate for the class of cases usually received into metropolitan hospitals,—especially if it be remembered that I have excluded those numerous instances of ephemeral fever, or febricula, which are often included under the common name of fever in hospital returns. But it is very difficult to compare the cases of different institutions in all those minute details which are necessary to insure a true parallel. Such circumstances as the population from which they are derived, the amount of selection exercised in admitting them, and the character of the various epidemics themselves—all these are important elements, which we can rarely regard as identical for any two groups of cases. And yet without such an identity it is obvious that their mortality may differ to almost any extent.

"There is, however, one comparison which appears far more valid and significant than any of these could be: since it applies to a large number of patients, derived from the same localities, suffering from the same epidemics, and placed in exactly the same circumstances with those above mentioned in all respects save one—that of the treatment pursued. And I trust that, in ad-

ducing such a comparison, the reader will believe me actuated by no motive but that of placing fairly before him the numerical results of a plan which, as it appears likely to be of advantage to human life, it is the duty of any one holding a public and responsible position to promulgate and recommend. My late lamented colleague, Dr. Chambers, was a gentleman whose long experience as an hospital physician, and great humanity and skill, sufficiently vouch for the manner in which his patients were treated. During the period he held my present appointment of senior physician, forty-nine cases of fever came under his care: of these ten died, making a mortality of about 20·4 per cent. Far from my having any reason to think these cases more severe than my own, I have reason to suspect that, on the whole, they were less so,—both intrinsically—and in consequence of my excluding *febriculæ* from my list. Whatever may be thought of this mere numerical contrast, I think those who witnessed the cases themselves found their comparison still more impressive. Among such impartial and competent observers, I may especially name Messrs. Lane and Curgenven, the late and present house-surgeons of the institution; both of whom soon recognized the merits of this plan of treatment, just as I had myself been obliged to confess the efficacy of some of its chief features when house-physician at King's College Hospital seven years ago."

ART. 5.—*On the Treatment of Fever by large doses of Quinia.* BY DR. CORBYN, Superintendent-Surgeon of the Punjaub Division.

(*Indian Annals of Medical Science*, No. 1, Oct. 1853.)

The following strong testimony in favor of this mode of treatment is from the "Annual Report on European Troops," for 1851–52. Dr. Corbyn writes and quotes as follows:—

From my long experience of the treatment of fever by large doses of quinia, when this disease broke out with such violence in its typhoid form at Anarkallie and the Citadel, I urged on the attention of medical men, when I went through their hospitals in August, the immediate necessity of prescribing quinia in large doses, as 20 grains for instance in each. Their apprehension was that the expenditure by such a practice would be so great that they could never obtain an adequate supply, but I soon allayed their fears, by demonstrating the fact that the expenditure would be 50 per cent. less than in the ordinary practice of administering frequent and after all useless small doses of that invaluable medicine. One or two doses, when large, will eradicate the fever at once, if combined with good effective purgatives. I found that in H. M.'s 90th, small doses were being prescribed, but that in the Horse Artillery, on the contrary, the very opposite treatment was pursued.

Dr. Mackinnon thus remarks on the success of this method; his success was wonderful:—

The cases of intermittent fever were so numerous, that I had full opportunity of trying every mode of administering quinia, and I have come to the conclusion that the most effective and the most economical mode of administering it, is to give it in a single large dose, at or towards the termination of the sweating stage. It is now my practice to give ʒss. at that period, and I have never seen it fail to put a stop to the disease at once. I have given the same quantity 6 or 8 hours before the accession of the paroxysm, but I found its effect uncertain: it often checked the paroxysm, but it sometimes failed to do so, in the latter case, however, though one paroxysm succeeded the dose, I never saw a second follow. It was this circumstance which led me to conceive, that the period of 6 or 8 hours was too short for the full development of the antiperiodic effects of the medicine, and I was thus induced to prescribe it at the termination of the sweating stage. I have found it equally effective in tertian as in quotidian intermittents.

"Lesser doses of from 20 to 25 grains I have found so often to fail, that I adhere now in every instance to the large dose.

"I have not found it produce vertigo, tinnitus, or other cerebral disturbance in a greater degree than small doses frequently repeated do; in fact, as the period of administration of the medicine usually occurs late in the evening, the patient gets his dose at bedtime, falls asleep, and if any sensations of vertigo, or tinnitus, or of other cerebral disturbance are experienced in the morning, they are usually slight. I prescribe the medicine without much reference to the state of the bowels, if they are confined, a purgative is either given along with the dose, or deferred till the succeeding morning, as the case may seem to require. If they are easy, I often give no medicine but the quinia.

"The great recommendations of this mode of administering quinia in hospital practice are: 1st. That it economises the expenditure of the drug: in the usual plan of giving quinia in repeated doses, from 40 to 50 grains and upwards are often consumed in the treatment of a single case,—rarely, in the intermittents of hot climates, so little as 30 grains. 2d. That the soldier returns to his ranks more rapidly. If the case is recent, and uncomplicated with local derangement, the patient is sometimes discharged on the 2d day after admission, but usually on the 3d day, an earlier period than was attainable on the old plan of treatment. Occasionally admission into hospital is not desired, but the patient comes in the evening, swallows his dose of quinia, and returns to the ranks. 3d. That it makes fewer demands on the attention of the hospital subordinates, and diminishes greatly the amount of their labor, instead of having repeated doses at specific hours to administer, a matter in an hospital full of cases of ague, involving no small labor, and requiring considerable attention as to time, there is only one dose to be given.

"In remittent fever, I have also, during the remission, prescribed a single large dose of quinia with the best effects; but the cases in which I have so prescribed it, have been too few to admit of my giving an unqualified opinion as to the superiority of this over the 'common mode of administering the remedy.' "

Dr. Mackinnon did not conceal his treatment under a bushel, but communicated his success to his assistant, Dr. Mactier, in medical charge of the 3d troop of his brigade, which was then stationed at Loodianah, and where fever was prevailing to a fearful extent. Dr. Mactier thus describes the disease and his success also.

"The only disease which has prevailed to any remarkable extent in the troop, during the past year, has been intermittent fever, but from this they suffered so much as to attract the notice of Government, and cause their removal from Loodianah to Jullundur. Occasional cases of fever occurred during the early part of the year, but it was not until August, that the number became in any degree remarkable. From this time, however, they rapidly increased, till about the 20th of October, when the disease reached its maximum. On one occasion, 12 cases out of 100 men were admitted into hospital on one day, and it was no unusual thing to have 40 sick under treatment, besides 10 to 20 convalescent: with only two exceptions every individual in the troop, including women and children, has suffered from one or more attacks of fever. It is a subject of congratulation that out of 356 cases of fever, treated during the season, only one proved fatal. The symptoms of the disease were the same as have generally been remarked. On its appearance, the cold stage was frequently absent, but this became more and more marked, and latterly, it was the one from which the patient suffered most severely. In a few instances, the prostration of strength during the ague fit was so great, that stimulants required to be liberally administered. The most remarkable feature in the disease was the obstinacy with which it returned, after the patient had suffered from one or two attacks. Affections of the spleen were, as might be supposed, exceedingly common, although, in general, they were only temporary. Still, in not a few instances, the organ became chronically enlarged. Seven of the worst cases of the sort have been sent to Landour for the ensuing hot season.

"As regards treatment, the ordinary method of administering divided doses of quinia, was for some time had recourse to, and with the usual result—the disease was cured, but not until the medicine had been taken for several days. In October I began to adopt the plan of giving one large dose of quinia, 20 to

30 grains, a few hours before the expected paroxysm, and the results were in the highest degree satisfactory. Latterly, however, I have tried another method, which, in my practice at least, has proved decidedly more successful, viz., instead of giving the large dose of quinia before the febrile paroxysm, I now administer it just after the sweating stage has subsided. Since this treatment was suggested to me, by Dr. Mackinnon of the third Brigade H.A., in November, I have never thought of employing any other, as, out of upwards of 50 cases, in only two has it failed immediately to cut short the attack. I have never seen disagreeable symptoms result from the large doses of quinia; headache and giddiness have certainly occasionally been complained of, but not more frequently than when small and repeated doses were given. The simplicity of the treatment, the saving of trouble to the attendants, and the reduced expenditure of the medicine, are all recommendations in favor of this practice, which, though by no means a new one, has not, I believe, been generally adopted. In the treatment of the natives, large doses proved alike economical and successful."

Phillour, like Loodianah, suffered unprecedently from this severe fever during the year 1850; admissions during July, August, September, October, and November, of fever cases, were 1,751, died 10. But during 1851, Assist.-Surgeon Frederick Corbyn, M.D., took medical charge. It was to be supposed, from the repeated attacks of almost every man in the regiment this year, that they would be more weakly and predisposed, and that greater mortality would ensue. Dr. Corbyn prescribed 20 grain doses of quinia, accompanied with a brisk purgative, hence, though during July, August, September, October, and up to 8th November, there were 1,037 fever cases admitted, not one died; but, beside the sick of the 49th regiment, there had been a considerable number of fever cases among officers, conductors, and sergeants and their families, as well as among the arsenal establishment, in all of which recovery took place under the same treatment.

ART. 6.—On the internal administration of Chloroform in Fever. By Dr. GORDON, Physician to the Hardwicke Fever Hospital.

(*Dublin Hospital Gazette*, Feb. 1, 1854.)

The subjoined cases are related for the purpose of showing the beneficial action of chloroform in allaying the insomnia and nervous irritation of fever.

CASE 1.—Patrick Dempsey, æt. 25, was sent from Santry to the Hardwicke Hospital, on the 8th of December; he was then eleven days ill of fever; his body was covered with dark-colored maculæ; his pulse was 110 and very weak, his speech muttering and indistinct; he has subsultus in both upper and lower extremities. His head was shaved, he was ordered the bark mixture of the hospital, and half a pint of wine. Late in the evening he began to rave violently, and could not be induced to remain in bed; he was ordered large doses of hyoscyamus, and the back of his head was blistered; he was so violent as to require the use of a strait waistcoat all night.

December 9th.—Has not slept since admission. Pulse, 132; very weak. He continues constantly muttering and raving. Tongue dry and brown; eyes slightly suffused; head not very hot; respiration short, frequent, and irregular. He still requires the strait waistcoat to keep him in bed. He was now ordered twenty-five minims of chloroform in a draught, to be repeated in an hour.

After the second draught his agitation and restlessness ceased, and the waistcoat was removed. He dozed a little through the day, but only for a few minutes at a time. Towards night he again became restless and delirious; the same quantity of chloroform was again administered, and repeated in an hour, when he fell into a sound sleep which continued for nine hours. He awoke perfectly sensible; the subsultus had ceased, and his pulse had fallen to 111. He continued to improve, and in a few days was convalescent.

In this, and other similar cases, chloroform acted by producing anæsthesia of the sensory nerves, and exerting a paralysing influence on the muscular fibre; and this it appears to effect without depressing or deranging the nervous force, as is the case with sedatives in general, while it is altogether free from the ob-

jection of causing depression of the action of the heart, as is the case with some special sedatives. My colleague, Dr. Corrigan, has just treated a somewhat similar case by the internal administration of chloroform. I had an opportunity, of daily witnessing the progress of the case; and, by his permission I there append it, as—

CASE 2.—Denis Beahan, æt. 20, a porter from High Street, was admitted into the Hardwicke Hospital, January 4th, 1854, the fifth day of his illness.

On the sixth day he was thickly covered with bright maculæ. His tongue was loaded, but moist; his pulse 112; respiration 22; no abnormal sound in the lungs; no tenderness of abdomen. He is reported not to have slept for two nights. His eyes are red and injected, and his head hot.

His head was shaved, and cold lotion applied.

Seventh day.—Pulse 116; respiration 28; slept but little.

Eighth day.—Pulse 120; very feeble; respiration 32. Ordered bark and wine.

Ninth day.—Pulse 126; very feeble; respiration 32; head hot; constantly raving, and getting out of bed; no sleep; subsultus of hands; tongue dry; great difficulty of utterance.

Vesicatorium nuchæ;

Eight ounces of wine.

Tenth day.—Pulse 130; weak; raving continually; difficult to restrain; requiring the strait waistcoat; constant talking; no sleep; tongue brown and dry in centre; thirsty; eyes very congested; pupils dilated.

Chloroform was now administered by inhalation, without any other effect than the pulse being slightly reduced in number. The patient was in no way quieted by it. Four leeches were now applied to the temples without any good effect. At 5 P.M. he took ʒss. chloroform by the mouth, and continued it every second hour till 11 P.M., when, as he did not sleep, and the delirium continued, he got the same dose of chloroform every hour through the night. At 3 A.M. he was somewhat quieter, but the same dose was continued every hour till 8 A.M.

Eleventh day, 10 A.M.—Much quieter, but has not slept. Pulse 110; pupils natural size; subsultus nearly gone; tongue brown all over; sordes on teeth; bowels free; urine high-colored, sp. gr. 1.020. Another dose of chloroform in same quantity was again administered; about twenty minutes after its exhibition he fell into a quiet sleep, which lasted for two hours. Shortly after waking, he took another half drachm of chloroform, when he almost immediately fell asleep, and awoke after several hours, much refreshed and quite collected.

His return to health was further indicated by the immense quantity of nitrate of urea, which an excess of nitric acid deposited from the urine.

“In the above case,” writes Dr. Gordon, “the chloroform was longer in producing its effects than in any instance in which I have as yet used it. We learn from it, however, that we are not to be discouraged by the apparent failure of the first dose or two in procuring sleep, for, as in the present case, although actual sleep may not be at once procured, we may expect that a state of calm and quietness will be induced, which will soon be followed by ‘Nature’s sweet restorer, balmy sleep.’ We learn also from this case that the inhalation of chloroform is, to say the least, useless in procuring sleep in cases of cerebral excitement in fever. I had, on one occasion before, in the Hardwicke Hospital, fully tried this mode of administering it; its inhalation was followed by general convulsive movements, very similar to an epileptic seizure, and I have not since administered it by inhalation in any similar case. Dr. Corrigan carefully tried the effect of inhalation three times in the above case, each time without any good effect.”

ART. 7.—*On the Time of the Accession of Intermittent Fever.*

By Mr. WARING, of the Madras Medical Service.

(*Indian Annals of Medical Science*, No. 1, Oct. 1853.)

The following curious particulars are from a paper entitled “Medical Notes on the Burmese,” to which further reference will be made elsewhere. The 240 cases referred to were treated in the Civil Hospital, at Mergui.

Hour of day influential in determining the accession.

HOOR.	CASES.	HOOR.	CASES.
12 midday,	27	12 midnight,	2
1 P.M.,	12	1 A.M.,	3
2 "	48	2 "	1
3 "	16	3 "	0
4 "	24	4 "	0
5 "	22	5 "	3
6 "	7	6 "	4
7 "	3	7 "	2
8 "	3	8 "	2
9 "	2	9 "	5
10 "	3	10 "	24
11 "	1	11 "	9
	<hr/> 168		<hr/> 55

Fever appeared at irregular hours in 17.

In other wards the fever commenced—

From noon to 11 P.M., in 168, or 70 per cent.
 From midnight to 11 A.M., in 55, or 22·9 per cent.
 Without any regularity, in 17, or 7·1 per cent.

240

ART. 8.—*On the Influence of Vaccination during the Incubation of Small-pox.* By Dr. BARTHEZ, Physician to St. Margaret's Hospital at Paris.

(*Révue Méd.-Chir. de Paris*, Jan., 1853.)

In this memoir M. Barthez confirms the received opinion that small-pox is mitigated and transformed into varioloid in the great majority of cases, if vaccination be performed in sufficient time for the vaccine to get the start of the variolous eruption; but he also contends that occasionally the modification is unfavorable, and that the danger and fatality of the small-pox are increased by the operation. Under these circumstances the fever is said to be typhoid, and accompanied by an hemorrhagic disposition, and the pustule and its areola badly developed. These results, however, are said to happen in children which are at the same time both young and delicate, and hence there is some reason to doubt whether they are really due to the vaccination.

ART. 9.—*On the Use of Tincture of Iodine to prevent Pitting in Small-Pox.* By Dr. CRAWFORD, Physician to the General Hospital at Montreal.

(*Montreal Medical Chronicle*, Nov., 1853.)

For upwards of nine years Dr. Crawford has been in the habit of using a saturated alcoholic tincture of iodine as a local means of allaying irritation and of preventing pitting, and he now adduces considerable evidence in support of this practice. Once or twice a day he paints the face (or any other part where it may be necessary) with this tincture, and this he continues to do from the first appearance of the eruption until the pustules are matured. The pain, which is the immediate effect of the application, is said to subside speedily, and to abate in severity after the first few trials. But this is rarely heeded; on the contrary, the relief to the itching is so gratifying to the patient that he frequently requests the extension of the application to other parts.

Dr. Crawford relates several cases out of his own practice, of which the two subjoined are specimens; and he also appends the testimony of Dr. Bergin, of Cornwall (U. S.), which testimony is of very considerable value.

CASE 5.—*Semi-confluent variola.*—R. C., æt. 15. I was called to this case on the fifth day of the eruption. The girl had been under the care of a medical

practitioner, who had not applied the iodine, although it was suggested to him by the priest, who had seen its advantages in the previous case. The eruption over the face was flat and ill-filled. Although profuse, it was distinct over the body. She was a delicate, dwarfish girl, subject to splenitis. At the period I saw her, she was very weak, depressed in spirits, and sleepless. She was ordered a small quantity of wine and water, and beef-tea frequently, calomel and Dover's Powder, and to have the face painted. Although the expectation of benefit was much lessened by the late period of the application, it caused, as usual, some pain, but at the same time afforded so much relief from the itching, that she frequently desired its reapplication. The eruption became confluent on several patches on the limbs; but little eruption on the body. The face swelled, and there was salivation. The scab on the face formed a complete mask, but not very thick. Her spirits revived, and her strength was maintained by wine and soups. Her feet, legs, and wrists, became painful and swelled. She, however, recovered well in about three weeks. There remain several small superficial pits on the face, which could not well be otherwise, as the application was so late in being applied, and a mark of a scratch she made before the iodine was applied. But they are evidently very much modified even by the late use of the remedy, and the relief to the itching derived from it was manifest, from her often desiring its application and extension over other parts. Several boils took place on different parts, but she soon recovered. This patient had never been vaccinated. Her elder sister was vaccinated during the progress of the case, and passed through the stages in a satisfactory manner.

CASE 6.—*Variola confluenta*.—A. A., æt. 15, a delicate-looking boy, had never been vaccinated, nor any of his family, three of whom were vaccinated on the occasion of my being called to see him, and all passed through the regular stages in a satisfactory manner. This boy had, a short time before his illness, received a visit from a young friend, just recovered from an attack of variola. The primary fever and epigastric pain were pretty severe. The eruption was profuse over his face and extremities when I saw him on the second day. The iodine was applied in an unsatisfactory manner, from the interference of the patient and his mother. The eruption soon became very profuse, and confluent on many parts. The tongue and fauces were covered by ulcers; the voice scarcely audible; some cough and expectoration. The iodine produced such a soothing and satisfactory effect, that he soon desired its reapplication, and it was extended to various parts to relieve the itching. The case, although very severe, went on well. Secondary fever was high, and there was much distress from the mucous membrane of the larynx, and from the pustules on the scrotum, and pains of his hands and soles of his feet, which were covered with pustules. He also suffered from rheumatism of the ankles and wrists, which were much swollen. The Dover's powder and calomel afforded him relief and sleep at night. Beef-tea and arrow root were ordered from the earliest day, and latterly wine and quinia. He was convalescent in three weeks, and able to sit up, in good spirits, saying he could dance with nurse, if the sores on his feet did not prevent him. Scarcely a trace of pit or depression being left on the face, whilst the parts unpainted showed numerous pits. On the 23d day from the appearance of the variolous eruption, an erysipelatous blush appeared on the forehead, and a similar one on the knee. An abscess formed in the axilla, and also on the eyelid and ankle. His back also became painful, and affected by erysipelas, and a smart fever supervened. His bowels discharged large quantities of ochrey-looking fermenting and very offensive evacuations, for three or four days, when the fever and erysipelas subsided. About the 30th day the fever returned and assumed a typhoid type; dark, black, dry tongue; muttering *delirium*, *subsultus tendinum*, &c. &c. He continued in this precarious state for a week, when he became quite intellectual, and able to tell his wants, and good hopes were entertained of his recovery, when suddenly, after two days of this favorable state, he was seized with dyspnoea and hurried breathing, and died in a few hours. The treatment is omitted, as not being an object on the present occasion. The most satisfactory results were observed to attend the use of the iodine, both by allaying the irritation and preventing marks, scarcely any being perceptible.

This case was seen by Dr. Campbell, in consultation, and by others, to witness the effects of the remedy.

"I have," continues Dr. Crawford, "very great pleasure and satisfaction in adding the testimony of Dr. Bergin, of Cornwall, to the beneficial effects of iodine in small pox; who had in 1849 an opportunity of using it on a very extended scale, such as rarely is the lot of any individual in this country. The following summary, which is founded on returns made to the Hon. Colonel Bruce, Superintendent-General of Indian affairs, is very brief, but it comprehends all that can be desired in support of the claim of this application, as an ectrotic remedy. Dr. B. had witnessed the early experiments I had made on this subject, during pupilage in Montreal, and gladly availed himself of the unusual opportunity he had, when employed by the Colonial Government, to afford his professional aid to a tribe of Iniquois Indians at St. Regis, on the banks of the St. Lawrence.

He briefly states, "I have treated 300 cases of small-pox among the Iriquois Indians at St. Regis, during an epidemic in 1849. Of these 200 were very severe, either confluent or partially so and to whom iodine was applied, as follows.—The whole face was painted, daily, from the earliest day that it could be done in eighty-five cases of confluent, or semi-confluent small-pox, out of which only seven exhibited any marks and these were slight. Half the face was painted in seventy cases of grave disease; of these, sixty-one were free from any marks on the painted side, five were badly pitted, and four slightly, on the painted side, while the unpainted side had numerous marks and pits, exhibiting a very striking and marked contrast. Fifty cases were painted at different periods, during the maturation of the pustules, upon which the tincture did not appear to have much influence. There were eight cases of variola modificata. Twelve of the cases terminated fatally, one of which was of an hemorrhagic type.

"I need scarcely add, that I am fully convinced of the beneficial effects of tincture of iodine not only as a powerful ectrotic remedy, but also as a very efficacious means of controlling the irritation and itching, and thereby not only relieving the suffering of the patient, but also removing the involuntary and irresistible disposition to scratch, and the consequent production of wheals and scars. I am also of opinion that it moderates the febrile action, and thereby the danger. I have used a small quantity of hydriodate of potass to aid in the solution of the iodine.

"I freely confess that I conceive I would not be doing justice and my duty to my patient, if I omitted to apply this remedy on any future occasion. It should be commenced at the earliest day of the eruption, and continued daily for a week."

ART. 10.—On the Ectrotic or Abortive Treatment of Small-pox. By Dr. BENNETT, Professor of Medicine in the University of Edinburgh.

(*Edinburgh Monthly Journal*, April, 1854.)

"On two former occasions," writes Dr. Bennett, "I have called attention to the remarkable results obtained by a mercurial plaster thickened with starch applied to the face in cases of small-pox. Several cases were also detailed, the number of which might easily have been augmented, showing not only that pitting was prevented in severe confluent natural cases of the disease, but that the pain, swelling, and suppuration of the face, the general fever and restlessness, and the violence of the disease, were all greatly diminished by the local treatment. Dr. George Paterson, of Tiverton, however, published a case where excessive and dangerous salivation was in this way occasioned, the risk of which must seriously compromise the otherwise great advantages of the ectrotic treatment. But it may be asked whether, after all, the mercury is in any way necessary to the success of this treatment. Its original propounders in Paris may indeed have supposed that the absorbent powers of the drug was the true cause of its success, but it seems to me that another explanation may be offered. There is, for instance, a close analogy between the mode of healing of wounds and ulcers, so well described by Dr. Macartney, of Dublin—that is the so-called

“modelling process”—and what takes place in the ectrotic treatment of small-pox. In the former, cicatrices are far less liable to be produced than after healing by the first or second intention, and in the latter the pitting or cicatrisation is prevented. The artificial plaster therefore takes the place of the natural scab or clot of blood, protects the parts below, and enables them to heal slowly but more perfectly than if exposed to the air uncovered and uncompressed by superjacent crusts. If this be the correct theory of the ectrotic treatment, the mercurial might be discarded, and any kind of plaster which would concrete on the face might be expected to produce the same beneficial result. This session I determined to try the effects of such a plaster, and after two or three failures have succeeded in procuring one that answers perfectly. The first case I treated with simple lard, thickened with starch and powdered charcoal, but it was so little coherent, that the patient, during the night, rubbed it off on her pillow or with her hands, and on her recovery she was pitted all over. In another case I tried carbonate of magnesia saturated with oil. But this also failed. In a third case, however, common calamine (*zinci carbonas*), saturated with olive oil (proposed by Mr. Bird, one of the clinical clerks), formed a coherent, tough crust, which remained on the face, and was found to answer well. Three cases of natural small-pox have been since treated in this manner with the result, not only of preventing the pitting but of diminishing the local and general symptoms, exactly in the same manner as I have formerly detailed, as being the effect of the mercurial plaster. The following is one of these cases:—

Alexander Ross, æt. 13, never been vaccinated, was seized with shivering on the 7th January, followed by the usual symptoms of fever. Entered the Infirmary on the 9th, when a few papules were observed on the face and arms. On the 12th the face was thickly covered with vesicles, which from their closeness, would certainly have become confluent. The mask of calamine and oil was now applied. The disease ran its usual course, the eruption being confluent on the arms and trunk. Throughout the progress of the case the application of calamine saturated with oil preserved a firm and coherent crust, and was renewed from time to time. The patient experienced no smarting of the face, there was no swelling of the eyelids, no purulent discharge, or local unpleasant symptoms of any kind. The secondary fever was tolerably smart, delirium being present two days. On the 22d the mask came off, leaving a clean smooth surface, free from all trace of pitting. Dismissed quite well on the 26th.

“The following formula, after numerous trials, has been found to constitute the most efficient plaster:—Carbonate of zinc, 3 parts; oxide of zinc, 1 part; rubbed in a mortar with olive oil to a proper consistence.”

ART. 11.—*Case in which it seemed probable that Scarlet Fever had been Inoculated.*
By Dr. ROWLAND, Physician to Charing Cross Hospital.

(*Medical Times and Gazette*, Nov. 26, 1853.)

In Dr. Rowland's opinion,—there can be little hesitation in admitting that the scarlatina in this instance was produced by direct inoculation with the virus. The patient was of an age when the susceptibility to the disease by the ordinary mode of its communication is greatly diminished. The symptoms, too, commenced so immediately after the abrasion of the skin, that they may safely be attributed to that cause.

Several attempts have been made by different physicians to produce scarlet fever by inoculating, either with blood taken from patients undergoing the disease, or with matter from the miliary vesicles which sometimes form in the midst of the rash. By this means the complaint has sometimes been engendered, although the expectation of a milder form resulting from the experiment, has been invariably disappointed. The present case forms no exception to this rule.

The initiatory fever, marked by rigors and vomiting, set in about forty-eight hours after the insertion of the poison, being a period of latency unusually small, and the minimum probably of that noticed in the regular disease. The sore throat commenced on the following day. The non-appearance of the rash on the skin is too common a circumstance in this fever to require notice, but as

some high authorities have occasionally refused to acknowledge such cases as true examples of the disease, the absence of efflorescence after inoculation in this patient may be worth alluding to. The anasarca appeared as early as the fourth day from the commencement of the fever. The swelling involved a large portion of the surface, and spread with great rapidity.

CASE.—Nov. 1st, 1853.—Louisa Preston, æt. 50, admitted this morning, states that on the 17th October, when nursing a child suffering from scarlet fever, she was scratched on the hand by the patient; the skin was slightly abraded, and a little blood escaped; the limb subsequently became much swollen, and suppuration ensued. On the 19th she was seized with vomiting and rigors, and, on the afternoon of the following day, sore throat commenced. On the 24th the legs began to swell, and the anasarca rapidly spread over the thighs and abdomen. The œdema still continues in these parts, and there is also puffiness under the eyelids, with distortion of the features. The urine is scanty, and loaded with albumen. No tube casts can be detected in it.

A powder of rhubarb and soda is ordered, and a saline mixture, with the tartar emetic.

Nov. 5th.—Urine increased in quantity; the albumen is diminishing; œdema much less. Continue the medicines.

9th.—The swelling is quite gone; the urine is free from albumen.

ART. 12.—*A Case of Glanders in the Human Subject successfully treated by Stimulants.* By Mr. W. J. Cox.

(*The Lancet*, March 25, 1854.)

Mr Cox relates this case in support of Dr. Mackenzie's views on the subject. (*Abstract*, vol xviii.)

CASE.—A man, æt. 47, a clogmaker, was attacked with severe salivation, swelling of the tongue and sublingual glands, accompanied with great prostration and restlessness. The treatment adopted by the author (gargles of alum, chloride of soda, &c.) proving of no avail, at the expiration of three days the patient was also seen by Dr. W. F. Mackenzie, who suspected the case to be glanders, from his previous experience of two somewhat similar instances. By this time a slight viscid, sanious discharge made its appearance from the nostril; and on examination, the Schneiderian membrane was seen to be strongly injected, and a scab was discernible, evidencing tendency to erosion. The watchfulness was most obstinate, and there was now delirium. The patient's articulation was so impeded that his speech was unintelligible. Dr. Mackenzie advised sesquicarbonate of ammonia in ten-grain doses at two-hour intervals, combined with five drops of laudanum and one drop of creosote. The author, finding a few hours afterwards, that the patient could not take the creosote, omitted it, and recommended wine in addition to the ammonia. The next day he was better, and had slept a little. Dr. Mackenzie then resigned the case to Mr. Cox's care. The dose of ammonia was decreased gradually in amount and frequency, and (the patient continuing very anæmic) combined with citrate of iron. He slowly recovered health and strength; but about twenty days after his first attack, he complained of pains in the limbs, and the glands of the axillæ and inguinal regions were enlarged. The history of the case was then elicited from the patient. About a week before applying to the author, he had, after breakfasting early, walked with a heavy load several miles, and, feeling fatigued, called at a livery stable to see a friend who was employed therein. Whilst there, he noticed a glandered horse, but did not approach it or any of the animals, being indeed separated from them, during his visit, by a distance of at least six feet (he was in a compartment of the premises above, and the horses below). He felt sickened and faint, and returned home. The next day he felt soreness of the mouth and throat, and slight salivation, which went on increasing. He had taken no medicine of any kind for a long period, except two pills from an herbalist about ten days before. He was a teetotaller.

ART. 13.—*On the Indian Plague.* By Dr. M'WILLIAMS.

(The Lancet, Dec. 13, 1853.)

Dr. Hirsch, of Dantzic, has lately published an interesting account of the Indian plague, and it is this account which is made the subject of a communication to the Epidemiological Society by Dr. M'Williams.

In his communication, the author commenced by stating that, in the whole history of epidemics, there are few epochs more interesting than that of the fourth decennium of our century; for then, within the compass of a few years, we find many of the most important diseases spread epidemically over the globe. These were preceded by agues, which prevailed at the close of the third decennium, and by the influenzas of 1831-33; cholera, which in 1823 had stopped short on reaching the frontier of Europe, overspread with the force of a torrent the Russian empire, and in 1831 entered Germany, where in the southern parts of the kingdom it was soon followed by typhoid fever and dysentery. At the same period "sweat fever" appeared in France and Italy, and for the first time "typhus cerebralis" was propagated epidemically. In North America cholera, typhus, and yellow fever raged. Turkey, Western Egypt, and the greater part of North Africa, were ravaged by typhoid fever and oriental plague. And it was just at that period that a disease of a new and most malignant character broke out in the northwest part of Hindostan. Researches among the archives of the medical board, however, made it evident that the same disease had prevailed some years before in those regions, but the attention given to it subsided soon after the epidemic ceased. The author considers the disease in question to have been a very decided plague specifically modified; and that in order to distinguish it from the Oriental plague it may justly be denominated the Indian plague. The first historical report of the outbreak of the Indian plague dates from the year 1815, in the provinces of Kutch and Guzerat, which in the previous year had suffered from terrible famine. Neither the origin nor the cause of the epidemic could be distinctly traced. But there is no doubt that the disease already, in May, 1815, had spread over some parts of Kutch and the district of Wagoor, that it raged in the territories until the following year, and made great havoc among the inhabitants. At the same time the epidemic appeared in Katlywar, from whence it spread to Scinde, and in November it reached Hyderabad, where from sixty to seventy persons daily fell victims to the plague. The epidemic entered the northeastern district of Guzerat in the beginning of 1817, and abated in the fall of the year. With the rainy season of 1819 it burst forth with new vigor, and overspreading the territory which had suffered during the previous year, reached the northern part of Guzerat, and in the east the Zillah of Ahmedabad. With the close of 1821 the epidemic everywhere disappeared, and but for the remark of Dr. Rankine, that the plague had been observed in 1823 in the mountainous territory of Kamoou, we have no information of its reappearance until 1836, when it broke out with great malignity in a country far removed from that above mentioned. It was then that the disease for the first time attracted general attention, and gave rise to scientific inquiries, and the adoption of sanitary measures. The Radjpootana States were the scene of the ravages of this epidemic; and as the first report of the disease came from Pali in the province of Marwar, it has obtained the name of the Pali Plague, although it is anything but certain that the epidemic originated in that place, for it also raged at the same time (July, 1836) in other districts of that province. After having traversed the greater part of Marwar, the disease passed the chain of hills separating the eastern borders of this province from Meiwar, overspread that country, and afterwards the district of Adjmer. Early in 1837 it again invaded Marwar, especially the town of Pali, and continued till the spring of the following year. From that time up to 1850 there is no further report of the prevalence of the malady. It was in this year that a fresh outburst occurred at Gurwhal and Kamoou in the Himalayan territory. Dr. Hirsch then gives a very graphic and minute description of the mode of invasion, and the general symptoms of the disease. The disease, although a bubonic plague, was distinguishable from the Oriental plague by an attendant pulmonary affection

and hæmoptoe. The mortality was dreadful, the supposition that it was from seventy-five to eighty per cent. of those attacked being by no means exaggerated. In the town of Pali alone, in a population of 20,000 inhabitants, 4000 persons fell a sacrifice to the plague in the period of seven months. The disease did not appear to be contagious, nor was it at all influenced by season. In the concluding portion of the paper, which indicated much learning, labor, and deep research into the writings of ancient as well as modern authorities, the author adduced strong evidence as to the identity of the Indian plague with the Black Death of the fourteenth century, that terrible epidemic which fills one of the darkest pages in the history of mankind.

ART 14.—*On the Comparative Mortality of Pestilence and War.*
By Dr. ROBERTSON.

(*Edinburgh Monthly Journal*, May, 1854.)

Some interesting tables have issued from the Health Office, comparing the loss of life by war and pestilence. It appears that in twenty-two years of war there were 19,796 killed, and 79,709 wounded, giving an annual average of 899 killed, and 3623 wounded. In 1848–49, there were no fewer than 72,180 persons killed by cholera and diarrhœa in England and Wales, and 144,360 attacked; 34,397 of the killed were able-bodied persons, capable of getting their own living! Besides these deaths from the great epidemic, 115,000 die annually, on an average, of preventible diseases; while 11,419 die by violence. Comparing the killed in nine great battles, including Waterloo—4740—with the number killed by cholera in London in 1848–49—14,139—we find the difference of 9399 in favor of war. In cholera visitations, 12 per cent., sometimes 20 per cent. of the medical men employed died. The London missionaries die as fast as those in foreign countries, and there are some districts in London which make the Mission Society ask themselves whether they have a right to send men into them. From the returns of twelve Unions it is found that 3567 widows and orphans are chargeable to the cholera of 1848–49, entailing an expenditure of £121,000 in four years only.

(C) CHRONIC DISEASES.

ART. 15.—*On certain Pathological States of the Blood, and of their Treatment.*
By Dr. COPLAND, F.R.S.

(*The Lancet*, Jan. 21, 1854.)

After describing various symptoms and signs of irritation of the blood, and noting more particularly the changes observed in the excretions, &c., Dr. Copland deduces a series of inferences as the bases upon which he founded his practice and treatment. He arranges the vitiations of the blood, under certain heads or categories, according to the causes, extrinsic or pathological, producing them with reference to the indications of treatment, and these comprehended the following seven orders:—

1. Vitiations produced by imperfect assimilation or development of the blood-globules.
2. Vitiations occasioned by the increased action of the organs, which waste or decompose the hæmato-globulin—which increase the fibrin and augment the urea.
3. Contaminations arising from the absorption of purulent, sanious, or other morbid matters, into the circulation, or from the imbibition of any of these by the veins or cellular tissue.
4. Alterations sometimes supervening on the foregoing, or complicating the latter, such as fibrinous coagula or concretions, or inflammations of arteries, veins, or lymphatics, puriform infiltrations, or fomentations.
5. Vitiations occasioned by the imperfect performance, or by the interruption or suppression of a depurating function.
6. Contamination produced by morbid miasms, or by specific seminia, as in malignant, pestilential, and septic maladies.

7. The inoculation of poisonous secretions or fluids, as the fluids from erysipelatous inflammations, from asthenic or diffusive inflammation, from bodies recently dead from malignant diseases, or from putrid animal matters.

The treatment appropriate to each of these orders or categories of blood vitiation might be differently estimated by different observers; the author professing, however, to give only the results of his own observation and experience. His practice has been based upon a close observation, and upon rational inferences from such observation. The treatment adopted by the author in these various conditions was then detailed, illustrated here and there by some very instructive cases. The author dwelt at some length on the treatment of that morbid state of the blood which occurred in acute rheumatism, and which is characterized by the redundancy of the fibrinous and ureal constituents of the blood. What medicines would counteract the disposition to fibrinous attractions in the blood, or such as might exist? Calomel, and calomel and opium, diaphoretics, emetics, purgatives, were doubtless excellent initiatory means to diminish excrementitious plethora; but to promote the depuratory functions he had found the greatest advantage from magnesia and its citrate, the carbonates and citrates of the fixed alkalies, the biborates of soda and potass, the nitrate and chlorate of potass, sublimed and precipitated sulphur, &c., &c., as well as the various preparations of cinchona and turpentine. For the treatment of the sixth category, the advantages derived from large doses of turpentine were detailed; and the author concluded by expressing his hopes that he should be excused for having made so frequent reference to his own writings, where many of the matters comprised in this extensive subject were more fully discussed; but he had his own originality in some topics to vindicate, as several authors who had recently written, had considered that opinions and ideas were fair objects of plunder, if they could be conveyed away without reference to their originators, and in a different array of words.

ART. 16.—*Cases of Leucocythemia.* By Dr. QUAIN, Assistant-Physician to the Consumptive Hospital at Brompton.

(*Transactions of the Pathological Society*, vol. iv, 1853.)

The first of these cases was exhibited by Dr. Quain at the Pathological Society, and his blood was there shown to have the characteristic appearances—numerous globules considerably larger than blood-globules, with several granules or nucleoli scattered throughout the field of view, between the *roleaux* of red globules. The second case was simply related at the same time.

CASE 1.—J. D., æt. 37, a butler in a gentleman's family, extremely regular in his habits, having always lived in a healthy situation, and never had ague: indeed, with the exception of an attack of scarlet fever, when in his twenty-first year, he had never been unwell. His family in general has been healthy. About twelve months before he came under notice he had begun to cough—to suffer from shortness of breathing—and to be less equal to his work than previously. Within the last two or three months these symptoms have become aggravated. He observed, about the same time, his abdomen increasing in size, and his legs swelling; and subsequently small tumors formed in the axilla, at the root of the neck, and in the groin. He had never had hæmoptysis, or loss of blood in any form. He presented himself at the Brompton Hospital at the end of last month, supposing that he was suffering from phthisis. Dr. Quain then obtained from him the detail of the preceding facts, and found that the symptoms of which he had complained were becoming daily aggravated. He looked pale, and rather sallow. He had not lost much flesh; he suffered much from the shortness of breathing, and debility; he could lie in any position, and had no difficulty in swallowing. The abdomen was found enlarged by the presence of a certain amount of fluid in the peritoneum, by a large solid tumor in the situation of the spleen, and by some addition to the size of the liver. The legs were œdematous. The heart's action was excited, and accompanied by a loud, though soft murmur, accompanying the first sound, and audible at the base. There was no disease of the lungs, save bronchitis. In the axilla, the

groin, and at the base of the neck, were a number of small nodules of a reddish hue, raised above the skin, and evidently formed by enlargement of the lymphatic glands. He voided about two pints of urine daily, which presented a dirty, turbid aspect, and was loaded with lithates, but was free from albumen. His *feces* were dark colored. Some alkaline diuretics were prescribed, in combination with juniper. Under this treatment the urine has become clear and more abundant; the *œdema* of the feet and legs is less; but in other respects he continues much as before.

A few days subsequently to the date of this report, the patient began to complain of increased debility and difficulty of breathing. The swelling of the legs became distressing, and the *œdema*, extending to the scrotum and penis, caused him much inconvenience. The distress was somewhat diminished by punctures made in these parts, and by spontaneous superficial openings which formed in the legs. From both an abundant watery discharge proceeded. His debility, however, increased, and he died exhausted on the 8th of December.

The *post-mortem examination* was made after an unavoidable delay of forty-eight hours; decomposition (the weather being mild) had progressed rather rapidly. There was considerable *œdema* of the lower section of the body, and livid discoloration of the back part. The upper extremities and chest were pale and thin; lymphatic glands, some as large as half a walnut, were seen in the groins and axilla. There existed scarcely any rigidity. The head was not examined. On opening the chest the lungs collapsed but little. Each pleural cavity contained about eight ounces of dirty-brownish serosity. There were pretty extensive adhesions of both pleura, chiefly posteriorly, and of the left lung to the greater extent. Puckerings existed at the summits of both lungs. Much frothy bloody fluid escaped from each on section. The pericardium contained about four ounces of fluid, similar to that found in the pleura. The heart itself appeared as a pale, soft, flabby mass. Its cavities were quite empty; very little blood could be obtained from any of the larger vessels. The valves of the heart were tolerably healthy. The muscular fibres had, under the microscope, a confused, granular aspect. They were probably in a state of fatty degeneration, but the decomposition which had taken place renders this point doubtful. The blood presented appearances similar to those described as having been present during life.

In the peritoneal cavity there were about twenty ounces of dirty-yellowish serum. The *liver*, which was found to weigh six pounds, was paler than natural, but felt firm and solid. The increase in size seemed (when investigated by the microscope) to be due to hypertrophy of all the elements of which the organ is composed, rather than to a special increase in one. The gall bladder contained about three drachms of thin, dark-colored bile.

The *stomach* and *intestines* were much distended by flatus, but otherwise presented nothing abnormal.

The *spleen* measured 13 inches in length by 11 in width, and weighed five pounds. It felt exceedingly solid and firm, and was of a dark red color. The microscopic examination, which was not made till further decomposition had taken place, was not, therefore, satisfactory; abundance of cells, similar to the white cells of the blood, caudate fibres, and cells aggregated as if in capsules, were observed.

The *kidneys* were large, soft, and rather rough on removing the capsules.

The *mesenteric glands* were enlarged, as were the lumbar lymphatic glands. On removing one of each class of glands, they communicated to the touch a soft, elastic feel, as of a cyst filled with fluid. On section this was found to depend on the presence of an abundance of fluid of a creamy consistence, and a beautiful pink color, the latter more marked in the lymphatic gland, infiltrated through the meshes of the glandular texture. The fluid was seen under the microscope to contain an immense number of cells; these cells, which were nearly all spherical, varied infinitely in size; the majority being about the size of the white globules of the blood: a few were larger, and many smaller; all contained nucleoli and granules. There was no very apparent difference between the contents of the mesenteric and lymphatic glands.

CASE 2.—E. F., *æt.* 43, a female, the wife of a publican, having borne eleven

children, presented herself at the hospital on the 16th of September. She had lived for many years in a healthy situation, was temperate, and enjoyed good health, save that when, being eighteen years of age, living in Bedfordshire, "on a sandy, dry soil," she had an attack of ague. She had never suffered from loss of blood, and was very well until the preceding March, when she suffered from pain and swelling in the abdomen, which in a week laid her up, and she has never since been well. Her menstrual functions ceased, and she lost her flesh and strength. The spleen was found to be much enlarged; and the blood, examined by the microscope, showed that all the red globules were more or less altered in structure, presenting an irregular granular character. The contrast was very remarkable when a drop of healthy blood was placed on the glass at the same time. This patient was seen but once. It was ascertained that she died soon after this visit in a state of extreme exhaustion.

ART. 17.—*On the Blood and Effused Fluids in Gout, Rheumatism, and Bright's Disease.* By Dr. GARROD, Professor of Materia Medica in University College.

(*The Lancet*, March 25, 1854.)

In 1838, Dr. Garrod read a paper before the Royal Medical and Chirurgical Society, the leading object of which was to show the presence of uric acid in the blood—in minute quantities in healthy blood, and in great augmentation in certain pathological states of that fluid; and to explain the methods which he employed for detecting the presence and determining the quantity of the uric acid. The present paper (which was also read before the same society) is supplementary to the former, and its principal object is to describe a process for the detection of uric acid in the blood, more readily employed in clinical medicine than the former process, and capable of being performed by any medical practitioner. To this process the author applied the term, "the Uric Acid Thread Experiment." It should be conducted as follows:—One or two fluid drachms of serum of recently drawn blood should be placed in a flattened glass dish; to this is added strong acetic acid, in the proportion of about six minims to each drachm of the serum. When the fluids have been well mixed, a very fine thread is introduced, consisting of from one to three ultimate fibres from a piece of unwashed huckaback, or other linen fabric; this should be depressed into the fluid, and the glass put aside in a moderately warm place until the serum is quite set and almost dry. Should uric acid be present in the serum in quantities above a certain amount, it will be crystallized on the thread, and readily detected by the microscope, in the shape of rhomboidal crystals of uric acid. The author alluded to some precautions which were necessary to insure success. He then adverted to the delicacy of this test for uric acid, and gave a table exhibiting the proportion of uric acid in 1000 parts, which this test was capable of detecting, by which it appeared that the experiment failed to demonstrate a quantity of uric acid less than 0.025 grains in 1000 grains of serum. The author pointed out the great practical value of this absence of extreme delicacy in the test, as any quantity above that just enumerated constituted a morbid proportion, so that whenever the thread experiment demonstrated the presence of uric acid, we possessed evidence of an abnormal quantity of that produced in the blood. By this method of analysis he had succeeded in proving the presence of uric acid in certain morbid effusions, the abdominal fluid and pericardial effusion in cases of granular kidney, and he had also succeeded in discovering the presence of uric acid in fluids artificially effused by blistering agents. This was a point of much importance, particularly in relation to diagnosis. It often happened that, from the state of the patient or other causes, the abstraction of blood for the purpose of analysis was undesirable; but by the application of a blister the effused serum afforded the means of determining, with remarkable accuracy, the presence or absence of uric acid in the blood. An examination of the serum obtained from a variety of blisters in different cases, demonstrated the singular fact that the presence of local inflammation in a part had the power of preventing the appearance of uric acid in the effused serum.

ART. 18.—On the Excretions as Guides to the Administration of Remedies in Rheumatism and Rheumatic Gout. By Dr. FULLER, Assistant-Physician at St. George's Hospital.

In this paper, Dr. Fuller states that no great advance can take place in our knowledge of disease, nor any material improvement in its treatment, unless we endeavor to discover the primary cause of each morbid action, and trace its influence in modifying and deranging the various functions of life. After briefly illustrating this important truth, he proceeded to point out how close a relationship the amount and character of the various excretions must necessarily bear to the condition of the general system, and how certain an index they afford to the energy of those processes by which the effete materials of the body are got rid of. Hence he deduced the inference, that no plan of treatment can be proposed, with a well-founded rational prospect of success, which is not based on a due regard to the different excretions, and varied with their varying condition. He then proceeds to apply this general law to the elucidation of the treatment of rheumatism and rheumatic gout, and shows that, inasmuch as these disorders depend on the presence of a morbid matter, the product of imperfect or faulty assimilation, a proper action of the excretory organs is more than usually necessary. The alterations usually produced on the character of the excretions by the existence of rheumatism and rheumatic gout, are next alluded to, and some remarkable exceptions pointed out; and the author states his opinion that the chief aim of treatment should be, by producing, as far as possible, an increase of those excretions which are scanty or deficient, to make each and all of the excretory organs assist in eliminating the *materies morbi*, and to endeavor, by close attention to the character of the excretions, to correct their morbid condition. He then refers to the good effects resulting from treatment regulated according to these views, and mentions many facts to prove and illustrate the ill success which attends every mode of treatment in which the condition of the excretory organs is not attended to. Having fully established these general principles, his next endeavor is to point out the means by which they can best be carried out. He first premises that if all the excretions are scanty or suppressed, and if at the same time the pulse be full and bounding, venesection will not only relieve the general tension of the system, and alleviate the pain and general distress, but will be followed by action of the excretory organs. He then proceeds to discuss each of the excretions separately, and in regard to the perspiration, stated his conviction that much mischief is often done by interfering with nature's mode of operation. No bath should be administered as long as perspiration takes place naturally, but if the skin is dry or acting sluggishly, a bath is essential to stimulate its action. He strongly recommended a water bath of 100° Fahr., rendered alkaline by potash or soda, but in the event of its being impracticable to make use of a water bath, the vapor or hot-air bath may be substituted. In either case the effects of the bath should be sustained by guaiacum and Dover's powder, or tartarized antimony and saline diaphoretic medicines. The only exceptions to this general rule are met with in persons of a weakly constitution, or towards the close of lingering cases. In such instances the perspiration is sometimes very profuse, but loses its distinctive empyreumatic odor, and much of its peculiar acid character, and is accompanied by a soddened state of skin, a quick, feeble, irritable pulse, and not unfrequently by an eruption of sudamina. Tonics, such as quinia and sulphuric acid, are then requisite, instead of diaphoretics and salines, and as soon as all feverishness has subsided, the cautious administration of iron is almost always beneficial. The urine is next appealed to, and made to furnish its quota of evidence. Dr. Fuller insists strongly on the fact that the mere appearance of the urine, its color, clearness, or turbidity, affords no clue to its real condition—to the amount and character of its solid ingredients, which can only be ascertained by careful examination. This he proved by reference to facts, and then went on to show that the amount of solid matter excreted by the kidneys is usually much diminished, and that diuretics are necessary to increase their action. A most important question is, as to what diuretics should be employed. A state of congestion and irritation exists

consequent on the abnormal condition of the blood, and the exhibition of ordinary diuretic medicines, which operate merely as renal stimulants, is more likely to increase that congestion, than to cause an abundant flow of urine. Hence cantharides, squills, nitric ether, scoparium, and other similar remedies are of little or no service, whilst alkalies and the neutral salts, such as the acetate of potash and the potassio-tartrate of soda, which correct the condition of the blood, are most active in promoting diuresis. So also are the preparations of colchicum. Water too proves of service, by promoting the absorption of the salts, and assisting not only in the excretion of the solid matters, but in their subsequent solution. The condition of the urine, as to specific gravity, turbidity, and acidity, was shown to be the best practical test as to the dose in which alkalies should be administered, the frequency of their repetition, and the propriety of persevering in their use. The alvine evacuations are next referred to, the necessity for strict attention to their character is pointed out, and the peculiar conditions which call for the administration of different remedies are clearly indicated. Dr. Fuller insists upon the powerful cholagogue influence of aloes and the acetous extract of colchicum in these cases, and urges the administration of these remedies, in conjunction with blue pill or calomel, whenever it appears desirable to excite an increased flow of bile. The principles of treatment already laid down are next applied to chronic rheumatism, and subsequently to rheumatic gout, and it is shown that in the latter form of disease the treatment requisite to produce the desired effects need considerable modification according to the stage of the disorder, and the constitution of the patient. A disregard of this fact, together with the practice, too prevalent in the present day, of prescribing each medicine separately, constitute, in Dr. Fuller's opinion, the chief cause of the frequent failure of the treatment ordinarily employed in rheumatism and rheumatic gout, and form additional grounds for a close examination of the excreta, inasmuch as such an examination proves that no two cases are alike, but necessarily require remedies differing widely in their character, no less than in the dose in which, and the period of the attack at which they should be administered.

ART. 19.—*On the Principles which should Regulate the Use of Iodide of Potassium in the Treatment of Chronic Rheumatism.* By Dr. BASHAM, Physician to the Westminster Hospital.

(*The Lancet*, Nov. 19 and 26, 1853.)

In the following remarks, Dr. Basham enunciates a rule of great practical value,—viz., *that iodide of potassium is only useful in those cases of rheumatism in which the patient has at some former time been mercurialized.* This rule is the sole result of clinical observation and experience; but it derives collateral support from the recent researches of M. Melsen (*vide Abstract*, viii.), which show that the action of the iodide under these circumstances is that of a chemical solvent, which dissolves the mercury out of the tissues and forms a soluble compound, which finds its way out of the system through the kidneys.

"From time to time," says Dr. Basham, "cases have come under observation, presenting the usual symptoms of chronic rheumatic pains, gnawing and erratic, with paroxysms aggravated by atmospheric changes; and there has been diffuse tenderness of the periosteal surfaces nearest in contiguity to the skin, as the scalp, clavicles, ulna, tibia, &c.; sometimes distinct tumefaction with exquisite tenderness, and these nodal elevations in some have been evanescent, in others persistent during the whole course of the malady. It has frequently been noticed, and practitioners of experience cannot have overlooked the fact, that some of these cases materially and rapidly improve under the administration of iodide of potassium, while in others, with symptoms in all respects identical, no benefit has been derived or improvement become apparent till the patient has been put through a course of bichloride of mercury and sarsaparilla.

"I was once inclined to think that these varying results depended on peculiarity of constitution, and that the treatment of such cases by one or other of these remedies, must remain, to a certain extent, empirical, and destitute of any settled principle. But a careful examination of all the precedent conditions in the his-

stories of such cases exhibited the following facts:—That in all the cases in which the iodide had been productive of benefit, the patient at some antecedent period had been salivated, in some for syphilis, in others for an inflammatory or other disease; while in those cases in which no benefit was obtained by the iodide, the patient had either never taken mercury to salivation, or had suffered from syphilis or gonorrhœa, which had been either neglected or treated only locally. It appeared then, that there were two predisposing causes to the same form of chronic periosteal rheumatism—the impregnation of the system by mercury, and the lurking and subtle influence of the syphilitic virus.

“In my clinical lectures for some years past, I have directed the attention of students to these facts, and impressed on them that the treatment of these cases of chronic periosteal rheumatism should be based on these principles: the first form of the disease requiring the iodide of potassium; the second form, the agency of alterative doses of some mild preparation of mercury. The following cases illustrate these views:—

CASE 1.—Lydia E—, æt. 20, was admitted on the 5th October, 1839, suffering from rheumatic pains in the arms and legs, of nearly two months' duration. There is tumefaction of the periosteum above the olecranon of the left arm, another immediately below the tubercle of the tibia, and a third a little below the tibia—all highly painful and sensitive to pressure; the general health is much deranged; the countenance is anxious, and there is some emaciation; there is a diffuse eruption of urticaria on the inner part of the thighs, very troublesome at night, the itching of which, with the pains in the limbs, has deprived her of rest for some weeks past. She denies that she has ever had any venereal disorder, although she confesses to have led, for the last two years, a dissolute life. A cicatrix exists in the left inguinal. She states that a year since she had a swollen knee, which confined her to her room for some weeks, and which, from her description, appears to have been an attack of acute rheumatic arthritis. Heart sounds natural; no pulmonary disorder. She was at first placed on mercurial alteratives—gray powder and Dover's powder, with aperient salines; and on the fourth day from admission, the state of the excretions being improved, she was ordered sarsaparilla, and the liquor of bichloride of mercury in drachm doses. The node on the olecranon was so painful, with some increase of temperature at the spot, that a few leeches were applied, with considerable relief to this local condition. The tibial nodosities were relieved temporarily by saline fomentations with the spongio-piline.

On the seventh day from admission, although the periosteal inflammation had everywhere subsided, yet her suffering at night from the gnawing, erratic pains in the limbs continued very distressing.

About the fourteenth day, visible signs of improvement manifested themselves; the local swellings had totally disappeared, and the parts could be touched without pain. The rheumatic nocturnal accessions of pain also became less, and she slept comfortably, and her general appearance indicated approaching convalescence. On the twenty-first day from admission, she was free from all former symptoms, and on the twenty-fifth she was discharged convalescent. No symptoms of ptyalism exhibited themselves.

CASE 2.—William C—, æt. 49, a footman, was admitted October 3d, 1849, suffering from severe rheumatic pains in all his limbs, of near eight months' duration, increasing slowly in intensity to the present time. The general aspect of the patient is unhealthy; there is no emaciation. The functions of excretion appear pretty regular; tongue not unnatural; pulse moderate in force and frequency; there is anorexia; no thirst; considerable bodily debility and exhaustion; the heart sounds natural, somewhat feeble; no pulmonary disorder; the surface of the skin is everywhere natural; but on both tibia there are periosteal enlargements and irregularities, causing extreme pain on pressure; the fauces are quite free from any vestige of ulceration. He states he never had a sore throat in his life, and most earnestly declares that he never had any venereal disease; that he married early in life, and has always been a steady man; but that about this time last year, he suffered an attack of pleurisy and inflammation of the liver, for which he was salivated, and was thirty-six days under the influence of mercury, for several days excreting pints of saliva.

For the first two days he took some saline medicine with opiates at night ; on the third day he commenced the iodide of potassium in ten-grain doses four times a day. A few leeches were applied to the right shin, and relieved the acute suffering of which he complained as becoming aggravated at night, and more particularly on attempting to walk or even place the foot on the ground. On the fifth day the ward-book states that the local pains in the tibia had been relieved, and that the patient slept better, but that the tongue was coated and bowels sluggish ; the pulse 72, small and weak. On the seventh day the report states the nodosities to have disappeared, and that he bore the pressure of the finger without pain. The urine has been daily examined, and iodine detected in it. On the tenth day the general appearance of the patient had much improved ; he complained of pain only in the ankles and shoulders ; slept well ; appetite natural. Between this day and the twentieth, a relapse of general rheumatic pains in all his limbs, with a sleepless night or two, occurred, but this passed away, and on the twenty-first he is reported as nearly convalescent, his only complaint being debility. The iodide was discontinued, and he took quinine with much advantage, and was discharged convalescent on the twenty-eighth day.

"These cases have been selected out of thirty-one patients of chronic rheumatism, eight of whom had suffered syphilis, but had never taken mercury or been salivated, eighteen had been salivated for venereal or other diseases ; and five had suffered neither syphilis nor salivation, but presented strong, marked characteristics of the scrofulous diathesis. In the first class no benefit was apparent while the iodide was administered, but a rapid improvement became visible under small alterative doses of the bichloride of mercury. In the second class, which exhibited a previous impregnation of the system with mercury, the remedial influence of the iodide was in almost every instance well marked. In one or two of the third class, the effects were doubtful, and the greatest benefit was derived from chalybeates and cod-liver oil. The cases that have been selected for illustration, it is admitted, present the treatment in the most favorable light : in other of the cases similar results were obtained after a more protracted course of treatment ; and some were complicated with disease of other organs ; one or two with lung disease, which, while the relief obtained for the rheumatic disorder was sufficiently apparent, would not so forcibly illustrate the treatment as the cases just recorded."

ART. 20.—*On the Local Application of Spirits of Wine in Acute Gout.*

By Dr. GOOLDEN, Physician to St. Thomas's Hospital.

(*Medical Times and Gazette*, Nov. 12, 1853.)

The extreme pain attending acute gouty inflammation may, it appears, be very quickly relieved by the application of pure spirits of wine. The reporter of the *Medical Times and Gazette* states that he witnessed a trial of this remedy by Dr. Goolden on a patient in St. Thomas's Hospital, who was suffering at the time from agonizing pain in the foot, and that the relief was almost immediate. He further states that Dr. Goolden is in the habit of using this remedy frequently in private practice, and always with the most pleasing results. The *modus operandi* is supposed to be by absorption, and not by mere evaporation. The mode of application is by a piece of lint saturated in spirit, laid over the part, and then covered with oil silk.

ART. 21.—*Co-existence of Cancer and Miliary Tubercles(?)*. By Dr. BRISTOWE.

(*Transactions of the Pathological Society*, vol. iv. 1853.)

The specimens which form the subject of the following remarks, were exhibited before the Pathological Society. They are of much interest, and their interest is greatly enhanced by the report appended to them, which was drawn up, at the request of the society, by Drs. Jenner and Brinton.

The specimens exhibited were taken from the body of William Roe, a mason,

et 48, who was admitted into St Thomas's Hospital, under Dr. Barker's care, and died about a week afterwards, with symptoms resembling those of phthisis. There were a few old adhesions in the left pleura. The surface of the left lung was studded with moderately firm, grayish-white, slightly translucent granules, about as large as a small pin's head. Each was surrounded by a patch of blackened solidified lung structure. On section the lung was found to present a large number of these bodies, more or less clustered, and forming hard projecting masses of various size. They were gray, tough, yielded no sort of fluid on pressure, and presented to the eye all the characters of gray miliary tubercle. No other disease existed in this lung. The right pleura was extensively and firmly adherent, and presented two small abscesses communicating with cavities in the base of the lung. The upper and middle lobes of the right lung contained numerous bodies like those observed in the left lung. In addition to this, however, in the middle lobe there was found extending from the root, some little distance into the lobe, a mass of cancerous deposit which appeared to have been developed around its larger bronchial tubes and vessels. The lowest lobe was very extensively diseased. The malignant growth was in considerable and irregular masses, through which the vessels and ducts passed without being obliterated. In some places the walls of the ducts were so involved in the disease that the mucous membrane only remained; but in many they were ulcerated and destroyed so as to give the lung, on section, the appearance of being riddled with cavities. These deposits had all the characters of soft cancer—they yielded a cream-like juice, had a grayish-white color, with a slight degree of translucency, were mottled in places with opaque yellow spots and streaks, and presented occasional but not marked vascularity. In the walls of the cavities the opaque material was in excess, so that it assumed somewhat of the appearance of tubercle. In several places the disease was but slightly advanced, the lung structure, though infiltrated with it, being still easily distinguishable. The bronchial glands were also affected with cancer.

An irregular mass of encephaloid cancer occupied the left lobe, and another the lobulus Spigelii of the liver, the former as large as an orange, the latter half the size, both were formed by the confluence of several tumors.

The stomach and small intestines were healthy. The ilio-cæcal valve was partially destroyed by an ulcer as large as half-a-crown; it was irregular in shape, with sinuous, somewhat tumid margins, its surface was irregularly hollowed out, there was little or no thickening about it, and no fungoid granulations or growths. It had much the character of a tubercular ulcer, but there was no tubercle deposited in its neighborhood. The large intestine presented numerous superficial ulcers, but they were all seated on the prominent parts, and had the appearance of being excoriations.

A small ulcerated opening existed at the posterior part of the left vocal chord; it communicated with a small abscess, into which projected the anterior angle of the arytenoid cartilage, ossified and necrosed.

There was undoubted cancer in the above case, both in the liver and in the lungs, even the cavities in the latter, though at first sight resembling tubercular cavities, were unquestionably cancerous. The question to be decided is, 'Were the gray granular bodies, which were found in the left, and in a great portion of the right lung, really what they appeared to be, viz, miliary tubercles, or were they malignant growths, simulating that form of tubercular deposit?' The naked-eye appearances (in which I am disposed to put more faith than in the microscope) were, I conceive, altogether in favor of the deposit being tubercular. And I think the microscopic characters were not against but rather in favor of this view. The cancer in the liver was almost wholly formed of small oval nuclei, about as large as blood-corpuscles; there were a few nuclei twice this size and a few granule-cells, when the nuclei was separate, a little flocculent matter was seen adhering to them, but no trace of cell-wall. The cancer in the lung consisted almost entirely of nuclei, rather larger, however, than those in the liver, and in those parts where the disease was comparatively little advanced, the fibrous material of the lung tissue was distinctly visible, but infiltrated and crowded with densely aggregated nuclei. It was somewhat different with the miliary tubercles. It seemed as if the deposit, whatever it was (at

least in the earliest stage), was seated in the air-cells, and not infiltrating the tissues. The deposit contained numerous nuclei, and these nuclei were about the size and shape of those in the liver, but they as much resembled those in the non-cancerous cells of the bronchial mucus. Again, they were by no means so closely aggregated, but were separated from one another by a considerable amount of granular matter and fibrils; indeed it seemed to me that the deposit consisted in an accumulation of closely packed and disintegrating cells in the air-cells. In short, it resembled the cancer of the liver in the character of its nuclei, but in that respect equally resembled the bronchial mucus. It differed from the cancer in not infiltrating the tissues, and in the fact of the nuclei only forming a comparatively small portion of its bulk; and lastly, so far as my experience goes, it presented no microscopic character, no amount of organization incompatible with tubercular deposit. I may add that, though I believe the ulcer on the ileo-cæcal valve not to have been malignant, its nature may admit of some doubt. The affection of the larynx, however, much more resembled scrofulous disease than that of the intestine did malignant disease.

Report.—The liver was evidently cancerous, and in the pultaceous purulent-looking matter which occupied the cavities of the lower lobes of the lungs, the small and numerous cancer cells were only complicated by the admixture of pus corpuscles, and other products of inflammation, in sparing quantity.

The bulk of the upper masses, which looked so like miliary tubercles, consisted of small cells, precisely identical with those of the lower cavities. As far as could be ascertained, they differed only in being unaccompanied by pus or exudation corpuscles, and in being still bounded by the proper pulmonary texture. It is true that, here and there, this appeared disorganized, and was mixed with minute refracting granules and amorphous substance—appearances somewhat resembling those met with in tubercle. But the date at which the examination was made, and the somewhat putrid state of the specimen resulting therefrom, will not permit much stress to be laid upon such an admixture; while, since these masses not only contained a large quantity of cell growth, but of cells which could be recognized as similar to those of the evidently cancerous portions of lung, there did not seem to be sufficient grounds for considering them tubercle.

With reference to the incompatibility of cancer and tubercle, we would advert briefly to the facts and opinions of some of the most recent observers. Dr. Walshe, in his work *On Cancer*, published in 1846, remarks that he had collected the histories of seven trustworthy narratives of cases in which cancer and tubercle were found after death in the same subject. Dr. Bennet, in 1849, wrote:—"Instances are common where individuals have tubercles in youth, and cancer in adult age; but," he continues, "I have not seen or heard of a well-authenticated case where recent tubercle and cancer were associated."

Lebert, in his *Treatise on Cancer*, published in 1851, says that in the examination of 173 subjects, some of the organs of which were the seat of cancer, he found recent tubercles in 15. The second part of Virchow's *Archives* for the present year contains a paper by the same observer on colloid cancer, in which he gives the details of 11 cases of that disease. The second case is that of a man in whose body colloid cancer of the pylorus and tubercles in the lungs were conjoined. The conclusion at which Lebert arrives is, that individuals affected with cancer are as liable to become tuberculous as those of the same age who are free from cancer. But in regard of the supervention of cancer in the progress of phthisis, he believes it to be very rare, as no example of it has yet fallen under his observation.

Rokitansky thinks that it is, on the whole, more usual for cancer to follow tubercle than the reverse. He seems to doubt whether the two have any real relation to each other beyond that of coincidence. And he expressly mentions suppurating cancer as being sometimes accompanied by a whitish glutinous tubercle, which he regards as the tuberculous disease of the already cancerous fibrin.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 22.—*On the Influence of Opium as a means of Preventing and Removing some of the Injurious Consequences of Over-work and Anxiety.* By Dr. JOHNSON, Assistant-Physician to King's College Hospital,

(Pamphlet, Tyler, 1853.)

The following interesting and practical remarks are from a course of lectures on *materna medica* and therapeutics, delivered before the College of Physicians in 1853. Dr. Johnson proceeds:—

When all that is possible has been done for avoiding the causes of mental worry, and when all needful advice and encouragement has been given, we have next to direct our attention to the consequences, some of which will often continue long after their exciting cause has ceased to operate; while others are perpetuated by some persistent and unavoidable source of anxiety. Now, the first and the most frequent consequence of over-work or anxiety—the one, too, which, more than any other is productive of further mischief—is restlessness, or some form of disturbed and unrefreshing sleep. And the chief cure for this, after the causes have been as much as possible avoided, is an opiate at bedtime. So far as I can see, it is of little importance what preparation of opium or of morphia is used. For hospital patients I generally order the compound soap-pili; one advantage of which is, that its name does not indicate its opiate nature. The dose must vary according to circumstances. In ordinary cases five grains, of the pill, that is, one grain of opium, may be taken every night at bedtime. In a case of much excitement, with extreme restlessness or a threatening of delirium, the dose must be double or treble that which I have mentioned. In such cases, however, the opium would be best given in a liquid state,—in the form of tincture, or the solution of the muriate or acetate of morphia.

The time for the continued exhibition of the opiate must vary according to circumstances, and will be much influenced by the success of the treatment. The object is to break the habit of dreaming restlessness, and to procure sound and refreshing sleep. In many cases this object may be attained by the nightly repetition of the dose for one week. It is seldom necessary or desirable to continue the medicine for more than a month, though, in some cases, it may be expedient and beneficial to extend the period considerably. In many cases I have found that the beneficial effects of the medicine have been immediate; the patient has slept soundly, the distressing dreams have ceased, the appetite has returned, and all the symptoms which depended on loss of sleep and loss of appetite have quickly disappeared. After a few nights of sound sleep have been procured by the opiate, the dose should be discontinued, and in most cases the patient will continue to sleep as well without the medicine as with it. There is, probably, no one medicine which has the power of quickly removing such a multitude and a variety of distressing symptoms as opium, when its action is really favorable, in the cases to which I refer. It is not, however, to any specific efficacy residing in the opium, but to the marvellous influence of sleep in refreshing both body and mind, that the benefit is really due. The value of the opiate consists in the fact, that, on the whole, it is the safest and most certain means of procuring sound sleep.

The use of opium as a medicine is sometimes attended with unpleasant consequences, and it does not always effect what is desired. I proceed now to indicate some of the unfavorable results of the opiate treatment, and the precautions which ought to be observed in the use of the medicine. One of the most frequent discomforts attending the use of opium is a feeling of nausea and faintness, either with or without headache, in the morning after waking. The best cure for this is a cup of coffee or tea, with some solid food, followed by a walk in the open air. In many cases the opium, although at first it may disagree, yet produces no unpleasant effect after the second or third dose.

The nervous patients who require the method of treatment which I am advocating, almost invariably suffer from constipation,—a torpid condition of the bowels, being, in fact, one of the natural consequences of the general debility which characterizes the patients in question. Although the immediate effect of the opium is to increase the constipation, yet its ultimate tendency is to restore the regular action of the bowels, by means of the invigorating influence derivable from sound refreshing sleep, and an increased appetite for food. The temporary constipation may readily be obviated by an occasional mild aperient—a seidlitz powder, or a compound rhubarb or colocynth pill. The inconvenience arising from the astringent effect of opium upon the bowels is so easily met and removed, that it would never deter me from giving the medicine in any case which appeared to require it.

One of the most serious objections to the use of opium, is its tendency, in some cases, to produce an effect the direct opposite of that which we require,—to produce wakefulness and excitement, instead of sleep and composure. It is only in a small proportion of cases that this difficulty arises. It may sometimes be overcome by changing the form of the medicine, or by increasing the dose of the opium or morphia, and, in other cases, by combining the opiate with a moderate dose of antimony—James's powder, or tartar emetic—a combination which has been strongly recommended by Dr. Graves to procure sleep and check delirium in some cases of fever. It must, however, be admitted, that some patients cannot tolerate opium in any form or in any dose; and nothing can better show the value of this drug than the difficulty of finding a substitute for it. We may try henbane and hop, and these will sometimes effect our object; but their action is very uncertain in comparison with that of opium.*

It is well to remember that an opiate enema will sometimes procure refreshing sleep, when opium, in any form, administered by the mouth, is either quite inoperative, or productive only of distressing excitement or sickness.

But may not the frequent repetition of an opiate dose become a necessity for the patient? May we not be instrumental in making him an opium-eater? I admit that the danger of such an evil, if real, would be a very fearful one. There are few results of medical practice which I should regret more than the reflection, that I had in any way contributed to render a recourse to narcotics or stimulants habitual or necessary to a single patient. I believe, however, that a cautious use of opium is attended with little danger of leading to so terrible an abuse of the drug.

In giving opium to hospital patients, I never tell them what they are taking; and one reason for preferring the compound soap-pill, in such cases, is, as I have before intimated, that the nature of the medicine is not apparent from the prescription, if the patient should read it. The opium should be discontinued as soon as it can be dispensed with,—as soon, that is, as restlessness and frightful dreams have ceased to harass and exhaust the patient. The rapid convalescence, and the renewed health, and strength, and spirits, which are wonderfully promoted by securing sound and refreshing sleep, will generally enable the patient at once, and without difficulty, to dispense with the use of opiates. I should withhold opium from a patient who neglects any directions which I have given him as to exercise, diet, and the general management of himself, and whose restlessness and nervousness appear to result from such negligence. In other words, I would not encourage a patient to trust habitually to opium for the removal of discomforts which might be avoided by the exercise of self-control, and by obedience to natural laws.

I beg to make an earnest protest against the routine practice of giving opiates to every patient who complains of inability to sleep. Our first care must be to discover, and then to remove the cause of the sleeplessness. We shall meet with some indolent patients, for whom the best soporific is regular employment and daily active exercise in the open air; for others, who are feeble, tonics and nutritious food will be the appropriate remedies; and again, in other cases, dyspeptic symptoms will cease, and refreshing sleep will return, under

* Since this lecture was delivered, I have found reason to believe that one of the best substitutes for opium in the cases referred to, is chloroform, in doses of from ℥x to ℥xx, made into a draught with mucilage.

the influence of an occasional aperient and a carefully regulated diet. In most cases of this kind, the exhibition of opium would not only be unsuccessful, but positively harmful.

* * * * *

The cases in which the opiate treatment is most rapidly and completely successful are those in which the nervous symptoms are the result of some past grief or anxiety, or fatigue, the impression of which remains, and is perpetuated by the patient's inability to obtain refreshing sleep. In such instances, a few nights of sound sleep, procured by means of the opium, rarely fail to effect a rapid cure, and this, too, after the nervous symptoms have continued for many months, or even for years.

Another class of cases in which equal benefit is often derived from a similar method of treatment, are those in which nervous restlessness has been induced by continued overwork, whether mental or bodily. In such instances, it is obviously desirable, as I have before intimated, that the patient should rest, or diminish his labors, if possible, but the patient may assure us that he has no alternative but to go on with his work, or to lose his employment, and with it his means of living. In such a case, we may often prevent overworked men and women from breaking down, and enable them to go on in comparative comfort by giving an opiate nightly for a week or two. Refreshing sleep will be induced, the appetite will return, and, as a consequence, the strength and spirits will revive. And the strength and spirits thus obtained are not false and artificial in the same pernicious way as the stimulus obtained from alcohol, by which too many are tempted in the circumstances to which I have referred. The temporary help which a languid body or mind derives from alcohol is generally followed by a corresponding amount of depression, and with this there comes a craving for a repetition of the stimulant. Another bad result of the too free use of alcohol is a loss of appetite and an impaired power of digestion. Now, the effects of the opiate plan of treatment, conducted with the precautions to which I have before alluded, are in most respects the opposite of those produced by alcoholic stimulants; for we seek, by means of opium, a natural remedy for fatigue, that remedy being sleep, which brings with it a desire for food, and the power to digest it. Alcohol is taken for the sake of the immediate stimulus; the subsequent depression is the drawback upon its utility as a means of keeping up the working powers. The object in giving opium is to obtain, not its stimulant effects, which are comparatively slight and transient, nor immediately its composing influence, but the refreshment which follows the latter, and which has nothing corresponding with it among the ordinary consequences of alcoholic stimulants.

My objections to the abuse of alcohol as a stimulant do not, of course, apply to the use of wholesome wine and beer as articles of diet by those who require them, and who appear to derive benefit from them. Moreover, there are certain cases of nervous disease in which some form of alcoholic stimulant may be given with great advantage, either alone or in conjunction with opium. I refer to cases of extreme restlessness, either with or without delirium, and whether resulting from intemperance or from grief, or watching or fatigue, when the bodily powers are very feeble, although under the mental influence there may be great excitement. In these cases, repeated large doses of opium sometimes fail to procure sleep, but appear rather to have a depressing influence: the patient's skin becomes cold, and is bathed in perspiration, while the delirium and excitement continue. In such circumstances, the continued use of the opium is not only useless, but injurious and dangerous; and the surest mode of arresting the collapse, and of procuring sleep, is to give freely either wine or brandy, or in cases of intemperance, the stimulant to which the patient has been accustomed, with beef-tea, or some other form of nourishment.

It is scarcely necessary to observe, that in all cases of nervous disease we must carefully watch the signs of functional disturbance or of structural change in any organ of the body, and that we must meet such symptoms by the appropriate remedies. And although, in most instances, a tonic plan of treatment is required, yet we must not hesitate to resort to measures of depletion if they are

called for by the occurrence of such organic disease as appears to need this treatment.

The cases which are least favorable either for the opiate or for any other plan of treatment are: 1st, cases of confirmed hypochondriasis or melancholy of very long duration, and especially when these have the character of religious despondency; 2dly, cases in which extreme nervousness has resulted from great terror, or from a sudden shock, which has left a deep and durable impression upon the mind and nervous system; and lastly, cases in which the symptoms are perpetuated by some constant source of anxiety or sorrow.

These classes of cases, although very unfavorable, and often little benefited by any plan of treatment, whether medical or moral, are yet by no means hopeless nor always incurable. Their unfavorable and unmanageable character is, however, greatly confirmed when they are complicated with epilepsy; and this whether the epilepsy has been induced by a sudden shock of grief or terror, or whether it has supervened upon long-continued anxiety and nervousness.

ART. 23.—*On the Nature and Proximate Cause of Insanity.* By Dr. DAVEY.

(London, Churchill, 12mo., 1853.)

Arguing from the fact that the most violent forms of furious mania more commonly occur to persons of weak and delicate fibre, and of great susceptibility,—that the more urgent symptoms of acute insanity are more frequently witnessed in combination with a small and feeble and quick pulse, cold skin, and a retracted and anxious countenance,—that the most appropriate and successful treatment consists in the administration of sedatives with a generous diet, and the employment of those various means which are calculated to improve the general health,—and that many cases of violent mania have been cured by the author by the administration of wine and steel,—Dr. Davey argues that insanity is a *nervous disease*, and that inflammatory symptoms in the brain and its membranes are secondary and non-essential. These views were first put forth in the *Zoist*, in 1843; and Dr. Davey's chief object in the present work is to call attention to this fact, and to claim priority to Dr. Henry Monroe, who has recently published a work enunciating similar views.

According to the author's own showing, however, he was himself anticipated in some degree by Drs. Crichton, Cullen, Good, and Willis, though without his knowledge; and therefore it is the more natural to suppose (which we have every reason to believe) that Dr. Henry Monroe was similarly ignorant of any predecessors in the same path. It is the more natural to suppose this, because Dr. Davey's views, when first enunciated, were hid in a shroud of phrenology and materialism, and then buried from general view in the *Zoist*.

Be this as it may, however, the views themselves are, *practically*, of great importance, and *so far* we have great pleasure in urging them upon the attention of our readers, and in adding a quotation which may serve as a key to the contents of the volume.

"It is quite necessary that pathologists should be prepared *at this time*, with more correct views of insanity than those too generally entertained. All know well the relation of *neuralgia* to the sensory nerve-fibre; of *chorea* or *tetanus* to the motor tract, or its dependencies; of *asthma* to the pulmonary nerves; of *angina pectoris* to the cardiac;—all practitioners are prepared, I take it, to explain the dependence of either one or the other of the diseases here named—of *neuralgia*, *tetanus*, &c., on a '*morbid sensibility*' of specific portions of nervous matter, *gray* or *white*; but all do not so well know, it would seem, that the only difference between maniacal affections and those I have just named, is in the *seat*, and not in the nature of the disorder. The parts first or directly affected in these several morbid conditions enumerated, exercise, as a general rule, certain functions in the animal economy, *i. e.* they contribute their respective aids to the animal functions, which, combined, constitute the *life* of the individual; but *exceptions* now and then occur, and the same parts then exercise an abnormal influence,—contribute not *aids* but obstructions to the animal functions in a state of health; or, in other words, what was *use* becomes *abuse*; disease is set up in

the nervous system, and the nature of this will depend on that portion of the nervous organism affected. If it be the gray matter of the brain, insanity in some shape or the other will show itself; if it be the gray matter of the cord, sensation will be deranged; if it be in the medullary or white fibrous matter of the brain or cord, either volition or motion will be impaired, and so on; and hence the occurrence of not only mania and dementia, but of neuralgia and anæsthesia, of tetanus, chorea, paralysis,—and what is a very material point, each and all of which, not forgetting *asthma* and *angina pectoris*, to carry out the simile, are commonly, in *chronic cases*, complicated with an asthenic inflammation of the vascular tissue of particular parts;—the usual signs of which are not only discoverable after death, but are indicated to the physician or surgeon during life.

“Pinel and Jacobi, Haslam and Esquirol, have distinctly admitted that ‘no lesion sufficient to account for the phenomena of uncomplicated *insanity* have been hitherto detected in the *brain* ;’ and strange to say, Laennec has employed these very words to prove the same of ‘ASTHMA’ and the LUNGS. Nor does the parallel insisted on end here;—it has been above shown that insanity, as a general rule, occurs to the delicate and enfeebled, and to those of much susceptibility; that this is the case with the various nervous affections named, no one will doubt. Attacks of insanity, like those of neuralgia, hysteria, chorea, tetanus, asthma, and angina pectoris, are not unfrequently quite sudden, *i. e.*, not characterized by any premonitory symptoms, and what is more, are oftentimes but of temporary duration; insanity is essentially a remittent, if not a paroxysmal disease, and so also of hysteria, chorea, asthma, &c. Like the *neuroses* generally,—*insanity* will sometimes, and all at once disappear, and that even after long years of endurance, and without any of the usual signs of amendment preceding the restoration of the party afflicted. The *treatment* found most efficacious in lunacy is precisely that required in the management of the ‘*neuroses* ;’ whenever cerebral derangement, or neuralgia, or chorea, or tetanus, or asthma, or angina pectoris is found complicated with local inflammatory disorder, increased vascularity of the structures involved, local bleeding is practised with good effects; counter-irritation and mercurial alteratives (with the occasional employment of opiates) are then also prescribed. But apart from such a complication in these several maladies named, the indications of treatment required are equally applicable to any one or other of them. It will be, I apprehend, readily conceded, that in *all*, it is of the first importance to establish a normal action of the *primæ viæ*, thereby insuring a healthy state of the secretions and excretions, both as regards quality and quantity; in *all* the necessity to counteract the debilitating influences of diseased action in the system by the use of tonic remedies, as quinia, steel, &c., and so to preserve the constitutional powers, as far as possible, unimpaired, is sufficiently apparent to every practical man. In each one and all of these affections the adoption of that physical regime calculated to supply pure air to the lungs, appropriate food to the stomach, power to the muscular system, agreeable and varied occupation to the mental faculties, and tone to the perspiratory apparatus, will be held as an essential element of treatment.”

ART. 24.—*On the Utility of Prolonged Hot Baths in the Treatment of Insanity.* By Dr. F. WINSLOW.

(*Psychological Journal*, April, 1854.)

“In the treatment of acute mania, the remedy next in importance to cautious depletion is that of *prolonged hot baths*. To Dr. Brierre de Boismont, of Paris, at whose excellent institution I first witnessed the application of this remedial agent, the profession is indebted for reviving a practice which had long fallen into disrepute. In the treatment of acute mania, the prolonged hot baths will be found of the most essential service. Dr. Brierre de Boismont has recorded the history of sixty-one out of seventy-two cases that were subjected to this mode of treatment. Three-fourths of this number were cured in a week, and the remainder in a fortnight. The patients remain from eight to ten and fifteen hours in warm baths, whilst a current of cold water is continually poured over the head; the temperature of these baths is from 82° to 86° Fahr.; the affusions 60° Fahr. Among the therapeutic effects of these baths, Dr. B. de Boismont

reckons a diminution of the circulation and respiration, relaxation of the skin, alleviation of thirst, the introduction of a considerable quantity of water into the economy, an abundant discharge of limpid urine, a tendency to sleep, a state of repose. This mode of treatment is said to be inadmissible in cases of periodic intermittent mania, in insanity beginning with great mental impairment, or associated with epilepsy or general paralysis. The result of my own experience of this plan of treatment has produced a very favorable impression upon my mind, and I think it is entitled to a fair trial in all our asylums where recent cases are admitted."

ART. 25.—*Upon the Question of Bleeding in the Treatment of Insanity*
By Dr. FORBES WINSLOW.

(*Psychological Journal*, April, 1854.)

"In regard to the treatment of acute mania," writes Dr. Winslow, "the important and much-litigated question among practitioners of all countries, is that relating to the propriety of depletion. Need I refer to the conflicting and contradictory opinions entertained by eminent writers on this important and much-vexed therapeutical point? Whilst some practitioners of great repute and enlarged experience fearlessly recommend copious general depletion for the treatment of insanity, and cite cases in which this practice has been attended with the happiest results, others, equally eminent, whose opinions are as much entitled to our respect, fearlessly denounce the lancet as a most fatally dangerous weapon, and shudder at the suggestion of abstracting, even locally, the smallest quantity of blood! In avoiding Scylla, we must be cautious of being impelled into Charybdis. The error consists in a vain effort to discover a *uniform mode of treatment, and attempting to propound some specific mode of procedure adapted to all cases*. He who maintains that bloodletting is never to be adopted in the treatment of mania, without reference to its character, its origin, the peculiar constitution of the patient, and the existence of local physical morbid conditions, which may be materially modifying the disease, and giving active development to morbid impressions, is not a safe practitioner. Neither would I confide in the judgment and practice of the physician who would, in every case of violent maniacal excitement, attempt to tranquilize the patient and subdue excitement by either general or local depletion.

"In attacks of insanity, when the symptoms are acute, the patients young and plethoric, the habitual secretions suppressed, the head hot and painful, the eyes intolerant of light, the conjunctivæ injected, the pupils contracted, the pulse rapid and hard, and the paroxysm sudden in its development, *one* general bleeding will often arrest the progress of the cerebral mischief, greatly facilitate the operation of other remedies, and ultimately promote recovery. In proportion as the symptoms of ordinary insanity approach those of phrenitis, or meningitis, shall we be justified in the use of general depletion. Although it is only occasionally, in instances presenting peculiar characteristic features—cases occurring in the higher ranks of life, where the patient has been in the habit of living *above par*, and is of a sanguineous temperament—that we are justified in having recourse to the lancet, there is a large class of recent cases presenting themselves in the asylums for the insane, both public and private, in the treatment of which we should be guilty of culpable and cruel negligence, if we were to omit to relieve the cerebral symptoms by means of the *local* abstraction of blood. It is, alas! the fashion and caprice of the day to recklessly decry the application of cupping-glasses or of leeches in the treatment of insanity, in consequence, I think, of the slavish deference shown to the opinions of a few eminent French pathologists, who have, by their indiscriminate denunciation of *all depletion*, frightened us into submission, and compelled us to do violence to our own judgment. The local abstraction of blood is, in the hands of the discreet and judicious practitioner, a *powerful curative agent*; and yet it is the practice of some men, and men, too, of position, to discard altogether the remedy!

"I will briefly refer to the kind of case in which the local abstraction of blood will be found most beneficial, if proper regard be had to the temperament, constitutional condition, and the local circumstances modifying the character of the

attack In insanity, when the exacerbations occur at the menstrual period, leeches to the vulva and thighs, with the use of the foot-bath and the exhibition of aloetic purgatives, will be attended by the most favorable results. In irregular and obstructed menstruation, the local abstraction of blood will be very serviceable. In suppressed hemorrhoids, leeches to the neighborhood of the sphincter ani will act beneficially by unloading the hemorrhoidal vessels, and thus relieve the brain of undue excitement. In cases of nymphomania, leeches to the vulva are indicated, and have been known to produce great benefit. In cases of intermittent insanity, the paroxysm may often be cut short by relieving the overloaded state of the vessels of the head by means of cupping or the application of leeches. In some instances, I have applied leeches to the Schneiderian membrane, particularly for the treatment of insanity occurring in early life, and connected with conduct evidently the effect of cerebral irritation. I have seen this mode of procedure of essential benefit in persons of plethoric constitution and of sanguineous temperament. Occasionally the insanity is found to be associated with active visceral disease, or with hypertrophy and other affections of the heart. Under these circumstances, when there exists great tenderness over the region of any of the visceral organs, and we are satisfied, by a careful stethoscopic examination, that hypertrophy of the heart is present, leeches applied over the seat of the local mischief, conjoined with other appropriate treatment, will materially aid us in subduing the maniacal affection. In cases of illusions of hearing, or of vision, it will often be necessary to apply leeches behind the ears, or over the superciliary ridges. I have known this practice entirely remove the morbid illusions which had been embittering the patient's life.

"But apart entirely from the local affections to which I have referred, for the treatment of idiopathic insanity, apparently without any complications, or modified by any of the associated diseases, the careful and temperate local abstraction of blood, when general depletion is inadmissible, will often materially shorten the duration of an attack and restore the mind to a healthy condition. I am anxious to record my favorable opinion of this mode of treatment, because I have witnessed so many sad results from an opposite timid and reprehensible neglect of the means placed within our power for the treatment of the varied forms and degrees of mental derangement. Sad consequences have undoubtedly followed the indiscriminate use of depletory measures. The presence of violent mental excitement has occasionally led the practitioner to the conclusion that the disease was of an active character; and in the attempt to allay the undue cerebral excitement by means of antiphlogistic measures, the patient has sunk into incurable and hopeless dementia." But whilst recognizing an *anemic* class of cases, where great excitement is often associated with loss of nervous and vital power, we must be cautious in permitting serious disease to be creeping stealthily on in the delicate structure of the brain, no effort being made to relieve the congested cerebral vessels or inflamed nervous tissues, until serious disorganization has taken place in the vesicular matter, and the patient is forever lost.

ART. 26 — On the Internal Use of Chloroform in Hypochondriasis. By Dr. OSBORNE.

(*Dublin Quarterly Journal of Medicine*, Nov. 1853.)

At a recent meeting of the College of Physicians of Ireland, Dr. Osborne stated that he had lately, in two cases, opportunities of observing a peculiar effect of chloroform taken into the stomach, in controlling the depressing and saddening feelings belonging to hypochondriasis. Considering that state to be produced by a depraved sensibility of the stomach or colon, and frequently of both, he was led to the internal employment of chloroform, which, being promptly volatilized at the temperature of the stomach and before being decomposed by the process of digestion, ought to be expected to act as a local anæsthetic, even though the dose should not be sufficient to produce any change in the function of the brain.

The first patient who presented the conditions requisite for this experiment was a married woman and a mother, aged 33, of a querulous disposition, as was

well marked in her countenance, and who had been on a former occasion under his care and that of another practitioner, complaining of a variety of pains in the abdominal region; and she, although relieved, yet persevered in the belief that she still had some internal disease. She now appeared to labor under spinal neuralgia. After this had yielded to the application of nitrate of silver to the spine, and some other remedies, she still continued to feel an indescribable sensation of depression, and of internal annoyance, no longer to be referred to the spinal nerves:—no cause for it could be detected. The appetite was good, and the action of the bowels regular. In two days, after taking ten drops of chloroform twice daily, she *began, for the first time, to acknowledge that she was better*, and in a few days afterwards was free from complaint. The second case was that of a man-servant in the Linehall, aged 29. He complained of the deepest dejection of spirits, and of an uncontrollable aversion to make any exertion. His countenance expressed sadness and moroseness. All the functions were in a healthy state, except that the heart's action became tumultuous when excited either by emotion or exercise; but no organic disease could be detected. He stated that he had not been addicted to excess of any kind, and that there was no cause for his lowness of spirits. He got valerianate of zinc, and also pills to regulate his bowels; but although the heart's action became steadier, yet the depression and inward sensation continued the same. After taking twenty drops of chloroform thrice daily for two days, *he began to confess, what he never did before, that he was better*. His sleep being still unsatisfactory and disturbed by disagreeable dreams, he was ordered to take forty drops at bedtime. He now stated that he slept with a pleasing dream of seeing his brother, who had gone to America. During the two following nights he took the same dose; and although his sleep was interrupted by the disturbance attendant on a man in a dying state in the same ward, yet when he did sleep his dreams were pleasant, being usually that he was enjoying the company of the most agreeable of his friends. He was dismissed with a marked improvement in his countenance, and *acknowledging that he was better*.

These cases are selected as being nearly free from complication. It must, however, be recollected, that there are several other uses to which chloroform may be applied in affections of the stomach and intestinal tube, but this appears to be one of the greatest value, inasmuch as no other medicine can be named which in this respect seems to come into competition with it. How far the effect is permanent and capable of completely removing the sensation of hypochondriasis, or in what degree it may require to be resumed or repeated, Dr. Osborne as yet has not been able to determine; neither did he think it necessary before this association to clear himself from the absurdity of bringing it forward as a universal *repenther*.

With regard to the mode of administering chloroform internally:—as its specific gravity is nearly 1.5, and it is insoluble in water, it must, when swallowed, soon settle at the bottom of the fluids in the stomach; and although it is volatilized, yet being covered, and under pressure, it may remain in contact sufficiently long to irritate the stomach at the part of contact, as was proved to take place in the case of camphor by Orfila. Hence, then, it is desirable that it should be diffused or diluted before it is taken. In aqueous mixtures, even when shaken up, it soon falls, so that it cannot be equally measured out, and its pungency is annoying even to the mouth. In gum Arabic mucilage it soon collects in large globules at the bottom of the bottle, covered with a white powder of arabine which it has precipitated. To obviate this inconvenience it has been proposed to give it suspended in syrup, but to make a syrup of the same specific gravity 1006 grains of sugar to the ounce of water would be required, while that of the Pharmacopœia contains only 874 grains: besides, chloroform has a heavy sweet taste which renders the addition of syrup peculiarly objectionable. The menstruum which Dr. Osborne used in the above and other cases was the decoction of Irish moss (*carrageen*). With this chloroform forms a uniform mixture, and in the proportion of ten drops to the ounce they remain for an indefinite time without separation taking place. The taste of the mixture is sweet like that of a heavy syrup, to relieve which it may be well to add a few drops of some aromatic or bitter tincture. Another mode of avoiding

the pungency of chloroform is by giving it in combination with tinctures, as it is soluble in alcohol, and remains dissolved even in proof spirit. The following is a specimen of this kind of formula, and is peculiarly grateful to the taste, and susceptible of various additions and alternations, according to the requirements of individual cases:—Chloroform, and tincture of ginger, of each half an ounce; aromatic spirit of ammonia, two drachms. Mix. Twenty-five drops to be taken thrice daily in a wineglassful of milk.

ART 27.—*On the External Application of Belladonna in Delirium Tremens.* By Dr. GRIEVE, Physician to the Dumfries and Galloway Infirmary.

(*Edinburgh Monthly Journal*, Nov. 1853.)

Reflecting upon the contracted state of the pupil in the second or developed stage of delirium tremens, Dr. Blake imagined that, "by dilating the pupil we might so influence the disturbed visual sense as to dispel, or at least modify, those 'false creations proceeding from a heat oppressed brain' which characterize this disease, and thus conduce to the comfort and tranquillity of the patient;" and one case is related in which this plan was adopted with apparent benefit. In support of his idea, Dr. Grieve reminds us that the late Dr. Graves proposed the use of belladonna in such cases of fever as were attended with cerebral disease, and contraction of the pupil.

CASE.—On the 25th of March last I was called to attend D. W., æt. 49, a man naturally of a robust constitution, but who, of late years, had been much given to intemperance. On inquiry I found that he had been more or less intoxicated for the last three weeks, that he had slept none for several nights in succession, and that the present was his fourth attack of delirium tremens. I found him suffering under great nervous excitement and commotion; laboring under all sorts of optical delusions; fancying that lizards, centipedes, and other entomological horrors were crawling in and around his bed, from which he was convulsively making vain efforts to dislodge them. His pulse was upwards of 120, soft and compressible; his whole body was bedewed with a cold clammy perspiration, and the pupils of both eyes were much contracted. Having obtained some ext. belladonnæ, I rubbed a little on the eyelids, and remained by his bedside to mark the result. My expectations were soon more than realized, for no sooner was the physiological effect of the drug manifested in the dilated state of the pupils, than the spectral illusions gradually became less and less distinct, the nervous tremors and excitement began to subside, and he soon became comparatively quiescent and tranquil. Soon after this I had the satisfaction to see him fall into the much coveted sleep. Thus I left him; and on revisiting him in a few hours I found that he had slept for two hours; his pupils were then still much dilated; his pulse was below 100, firmer, fuller, and of better character; and altogether his condition, mental and corporeal, was much ameliorated. On interrogating him about his recent hallucinations, he replied, "They were all stuff and nonsense; I see no more of them."

ART. 28.—*On Vertigo.* By Dr. J. RUSSELL REYNOLDS.

(London, Churchill, Pamphlet.)

Dr. Reynolds uses the term vertigo in its widest sense, and makes it to include vertiginous sensations, as well as vertiginous movement. His remarks upon his very difficult theme are full of interest, and we cordially recommend, therefore, the pamphlet in which they are contained, to the attention of our readers.

Vertiginous movements. The facts of daily life, of experimental physiology, and of clinical observation, concur to establish that all our muscular movements, for the attainment of definite ends, such as locomotion, attitude, equilibrium, &c., are guided by, or occasioned by, sensation. When the movement is volitional, it is directed in accordance with sensational instruction; when a-volitional, the sensorial impressions are very frequently the direct 'stimuli' of contraction. Rotatory movements are shown, by an historical sketch of the experiments performed by Magendie, Flourens, Longet, Lafargue, Schiff, and others, to depend upon a destruction of bilateral symmetry in sensorial impres-

sions. This is, *per se*, sufficient for their production, (as shown by the later observations of Flourens and Longet upon the external organs of sensation,) and the varied lesions of internal organs which produce them in a more complicated form, consist essentially of destruction of those parts which are the centres of sensation, or which places these centres in communication with the motor system. The ease with which such movements may be induced, their regularity, force, and persistence, vary with different conditions of lesion; but they are, generally speaking, in proportion to the degree of dependence of the animal (used for experiment) upon sensational guidance:

Vertiginous sensations may be defined to be the *sensation* of motion without (or independently of) its real occurrence. Two *classes* may be recognized: in one the apparent motion is referred to surrounding objects (*objective vertigo*); in the other to the individual's own person (*subjective vertigo*).

The *conditions* of *causation* are twofold, *i. e.* they may be either external to the individual, or they may consist of some internal change. The former resolve themselves into sensorial impressions of a peculiar character, the marked feature being want of symmetry. Rotation of surrounding objects, or of the body, and the position of the latter in unusual relationship with the former, when such position destroys the equality of objective impressions, illustrate the first class of conditions. The internal causes (remote) may be referred to idiopathic, or induced changes to the nervous system itself; and to abnormal conditions of the general economy, or of some particular organ.

The *pathology* of vertigo has passed through various stages of development. The "animal spirits" were for a long time the means of explanation (Willis, Bonchis, Haller, Wedel, &c.) Vicious conditions of the organs of sensation, and movements of their parts, took the place of movement in the animal spirits (Sauvages). The phenomena were considered psychologically by others (Darwin, Crichton, &c.) We then find simple physical conditions of the brain, such as congestion, &c., referred to as satisfactory explanations (*e. g.* in the 'Dictionnaire des Sciences Médicales,' &c.) Purkinje, Müller, and Romberg held different views, which do not appear conclusive. Purkinje pointed out that in vertigo of external origin, *e. g.* from rotation of the body, there was the tendency to continue rotatory movement, as well as the feeling of its production. It is concluded, generally, that the apparent motion of surrounding objects is due to the persistent ocular spectra occasioned in the manner described by Aimé, Plateau, Müller, &c.; the sensation of personal movement is a similar condition referred to the nerves of muscular sense. Their peculiar character, that of rotation, is due to the special manner in which they are induced, *viz.*, by one-sided, or asymmetrical sensorial impressions. When of little intensity, this is probably the sole cause; but when more severe, there is a condition of the centric nervous system analogous in character, but more persistent in its effects. Vertigo of internal origin is referable to a similar centric condition, occasioned by internal causes.

The effects of habit, and of renewed sensorial impressions, confirm this view; and as different individuals suffering from vertigo present, with much constancy, variations in the character of this symptom, a scheme is given in which are placed several points of distinction and interest, the accurate observation of which may lead to a more correct appreciation of the phenomena, and an increase of its diagnostic value.

The cases which have hitherto fallen under the author's own observation are not sufficiently numerous to warrant the formation of any general results; but the marked differences which they present induce the hope that, at some future period, such results will be obtained, and will prove of value not only in the diagnosis of disease but in its treatment.

ART. 29.—*A Case of Hydrophobia said to be Cured by Chloroform.* By
Dr. STEWART, of Tennessee.

(*Dublin Medical Press*, Sept. 28, 1853.)

Referring to the cases reported in one of our former volumes (xvi.), in which the sufferings of the patient were greatly mitigated by Chloroform, Dr. Stewart makes the following communication to the *American Lancet*;

"In 1850, if I mistake not, I read in the *American Courier* the report of an instance of this dreadful affection which was successfully treated by the anæsthetic. The patient, a Mrs. Burr, was under the care of Dr. Jackson, and of another physician whose name now escapes my mind, both gentlemen being residents of Philadelphia. The patient was kept under the influence of the chloroform for several days."

ART. 30.—Remarkable Development of Intelligence in a Cretin during Hydrophobia.
By M. NIEPCE.

(*Gaz. des Hôp.*, August 27, 1853; and *Edinb. Monthly Journal*, May, 1854.)

Antoine Chauvet had been a cretin from birth, and at the age of 17½ years presented, in a marked degree, all the physical and mental characters of cretinism. He could only articulate a few words imperfectly. He had not sufficient intelligence to learn reading or writing, nor to understand the catechism. His affections were little developed; he had some liking for his mother, but showed none for his brother. On the 10th of May last he was bitten by a mad dog; the wound was slightly cauterized with some drops of ammonia by a druggist, about an hour after the accident. Nothing was observed till the 27th July following, about eleven o'clock, when Chauvet refused to eat or drink; and two hours afterwards all the symptoms of hydrophobia made their appearance. From the commencement of this disease, to the great astonishment of every one, Chauvet spoke with much greater facility than he had ever done before, addressing those around him, and relating the sufferings which he felt. In the intervals of the paroxysms he called his mother and brother, showing his affection for them by the most tender caresses, and entreating them not to leave him alone. He caused the priest to be sent for, and on his arrival expressed with tears his bitter regret that he had never been able to learn the catechism. During the remainder of his illness, his intelligence became always lucid during the paroxysms of suffering, when he would put questions to those around him, and give directions to them; but as soon as calm or depression ensued, the natural state of his intellect returned. On the 1st August, acute delirium came on, during which he spoke frequently and with volubility, citing facts which had happened several years before, and to which he had never seemed to pay attention. The delirium lasted till night, when it was succeeded by deep coma. He died at five o'clock on the following morning.

ART. 31.—Report regarding the Cases of Hydrophobia which occurred in France during the year 1852. By M. AMBROISE TARDIEU.

(*Annales d'Hygiène*, Jan. 1854; and *Edinb. Monthly Journal*, May, 1854.)

In the year 1850, the Minister of Agriculture and Commerce, on the recommendation of the Committee of Public Health, sent a circular to every prefect in France, requesting him to give information regarding any cases of hydrophobia which might occur in his department. A number of reports were in consequence sent in, but as these were in some respects incomplete, a fresh circular was issued detailing more particularly the manner in which the cases should be recorded. From the information so obtained, M. Tardieu drew up a report regarding the cases which occurred in the years 1850–51, as well as 1852. As the report for the year 1852 is much more complete than the others, we subjoin an abstract of it.

1. The number of cases of hydrophobia which occurred in France during the year 1852 was 48. These were observed in 14 departments; the department in which the greatest number occurred was that of the Hautes Alpes (in the southeast of France, latitude between 44° and 45°); while the department of Lozère (also in the south, and having the same latitude as the other) came next.

2. With regard to the sex; 36 of the 48 cases were males, 12 females; the proportion in the two preceding years was almost the same.

3. The following table exhibits the ages of the subjects affected with hydrophobia:

Below 5 years, in 1852,	3	in two former years,	4 = 7
From 5 to 15	16	" "	14 = 30
" 15 to 20	4	" "	11 = 15
" 20 to 30	3	" "	9 = 12
" 30 to 60	17	" "	37 = 54
" 60 to 70	1	" "	7 = 8
Above 70	0	" "	6 = 6
Not mentioned	4	" "	0 = 4
	<hr/> 48		<hr/> 88 = 136

This table shows the incorrectness of the opinion which ascribes the disease to the effect of terror, for it shows that 7 children under five years of age have been attacked.

4. All the cases which occurred in 1852 originated in the bites of dogs, except one, where the bite of a cat was the cause of the disease.

5. The situation of the wounds inflicted by the rabid animals was as follows in 48 cases:—On the face 13 times; on the upper extremities 15; on the lower extremities 12; not mentioned 8. In two of the cases the disease was communicated by pet dogs which were accustomed to lick their masters' faces, and where excoriated lips were the seat of the inoculation.

6. In 40 out of the 48 cases the date of the inoculation has been observed. It occurred in March, April, and May, in 10 cases; in June, July, and August, 16; in September, October, and November, 4; in December, January, and February, 10.

7. It seems a considerable number of individuals who are bitten by rabid animals escape the disease. During 1852 some observations were made on this point, and it appeared that out of 44 persons bitten about the same time, 23 only were attacked.

8. The period of incubation of the disease was exactly noted in 20 cases. It was as follows:—Less than a month in 8 cases; from one to three months, 10; from three to six months, 1; eleven months, 1;

9. The duration of the disease in 20 cases was, two days in six cases; three days in 8; four days in 5; six days in 1.

10. The termination of *confirmed* cases of hydrophobia was constantly fatal. Of the 48 cases, it appears that only 27 came under this category, in the others the effect was merely local. In 12 of these 27 cases no precaution was taken, in 4 no mention is made of this circumstance. In 8 of the remaining 11 cases cauterization was resorted to immediately, in 3 at a late period. Of the 21 individuals who escaped, cauterization was energetically performed in 12 cases; the details of the other 9 have been omitted.

11. As to the mode of cauterization employed, the actual cautery was used in all the cases but 5, and these were treated by protonitrate of mercury, nitric acid, ammonia or butter of antimony. In Germany it has been proposed to excise the bitten parts, and then to wash the wounds with a solution of caustic potash.

ART. 32.—A Case in which Tetanoid Spasms returned during Suckling in Five successive Confinements. By M. BARBIERI.

(*Gaz. Méd. Italiana Toscana*, Jan. 3, 1854; and *Gaz. Hebdom.*, 10 Mar. 1854.)

The subjoined case is very curious, as showing, or appearing to show, the connection between spasm and exhaustion.

CASE.—A woman æt. 32, robust, and up to that time in good health, became afflicted with occasional painless twitchings in her feet and legs, after having nursed her first child for some weeks. This child died of pemphigus when ten months old, and contemporaneously with this event the twitchings ceased.

A year afterwards a second child was born. This child only lived for seven days, but notwithstanding the shortness of the period, the twitchings had time to return, and to extend to the thighs and loins. The mother again recovered as soon as the secretion of milk was suspended.

Thirteen months later, after the birth of her third child, the spasms returned

as the milk began to flow, and they recurred with increased violence every tenth day. On these occasions a fleeting tetanic spasm passed over the body, seizing one part after another, and never remaining in one place longer than four or five minutes at a time. On these occasions there was considerable pain, the pulse and breathing were quickened, and the skin was drenched in perspiration. The paroxysms lasted from twelve to twenty-four hours, and then passed off without any consecutive fever. Bleeding, antispasmodics, purgatives, and valerianate of quinia were tried without avail. At the end of ten months, however, the child died of dysentery, and once more the spasms and the flow of milk ceased together.

The same results followed after two successive confinements, and in each case weaning was found to be the only remedy, and this afforded immediate and complete relief. At present the patient is full of life and well.

ART. 33.—*An Anomalous Case of Tetanus.* By Dr. LITTLE, Surgeon to the Sligo County Infirmary and Gaol.

(*Dublin Medical Quarterly*, Feb., 1854.)

This case is remarkable from the absence of pain, but it is not unique. Sir Gilbert Blane, it appears from Dr. Little's paper, records a fatal case, in which "the spasms communicated a sensation rather pleasing than otherwise, nor was any pain experienced to the last;" and Dr. Moseley, physician to Chelsea Hospital, who wrote in 1795, and who saw many cases of tetanus in the West Indies, says, "I have known people in tetanus, with the sweat running off them from the violent pulling of the muscles, who have nevertheless told me that they indeed felt a distress they could not explain, yet they could not say it was actual pain."

CASE 1.—Catherine Gannon, æt. 22, was admitted into the Sligo County Infirmary, January 1st, 1851. She is a married woman, seven months pregnant of her second child; has hitherto been remarkably healthy. On the 13th of December, while stooping to brush her shoe, a dog upset a loaded gun standing against the kitchen wall, which, going off, discharged (she stated) a full charge of snipe-shot, wounding the upper part of the left thigh, external aspect, near the insertion of the tensor vaginæ femoris muscle, and the left mamma in two places. She was seen by Dr. Vernon, of Tubbercurry Dispensary, under whose care, until the supervention of the tetanic symptoms, the wounds progressed most favorably.

On Christmas and the following day, she felt her teeth a little sore, and on Sunday, the 28th, first perceived the muscles on the back of the neck rigid, and a sense of stiffness and difficulty in opening the mouth; the trismus has gradually increased since, and at present the teeth can be separated only to the extent of a quarter of an inch. She has no difficulty of deglutition, no sense of constriction of throat or œsophagus, *no pain anywhere*; the left shoulder joint is very stiff; abduction of the arm impossible, and the corresponding deltoid muscle and the muscles on the back of the neck alone affected with well-marked tetanic rigidity; the tetanic countenance slightly, but very sensibly marked; appetite good, but can only eat slops; bowels regular; skin cool, but very harsh and dry; pulse 80; *feels in perfect health*. Half a drachm of mercurial ointment was ordered to be rubbed in three times a day, and she was directed to take a tablespoonful of a diaphoretic mixture every third hour.

Jan. 2d.—She has sweated considerably, and for the first time since her accident. Bowels not opened since she came in; to have a castor-oil draught, and to continue frictions.

3d.—Bowels opened twice by castor-oil draughts; copious diaphoresis; in other respects as before. To continue frictions and diaphoretic mixture. Ten o'clock p. m. She has complained for the first time of tetanic spasms of both shoulders, and the peculiar præcordial pain (diaphragmatic) of tetanus, which she describes as a sense of crushing of the sternum towards the spine; had once a sense of stiffness, or involuntary extension of both legs; the spasms have attacked her about once an hour since 7 o'clock p. m. Continue frictions, and let her have a draught of forty drops of solution of muriate of morphia, to be repeated in an hour if necessary.

4th.—Tetanic spasm ceased at 12 o'clock. She only took one draught; slept well towards morning; tetanic spasms frequently attacking the shoulders and thoracic muscles, not the legs. Tetanic countenance very well marked. Bowels not opened since the night before last. To have a cathartic draught, and afterwards, if requisite, a turpentine injection. Mercurial frictions to be continued. Eight o'clock p. m. Tetanic spasms, but confined to neck, shoulders, and thorax, have just recommenced. Bowels well moved twice. Continue the frictions; to have a draught containing a drachm of solution of muriate of morphia, and repeated in an hour if the spasms become urgent.

5th.—Slept well from 12 o'clock at night, the paroxysms having been very severe and frequent up to that hour; the pain of scrobiculus cordis only affects her when sitting up. Continue the frictions; let her have two morphia draughts, to be used as last night, should the spasms supervene.

6th.—*Spasms set in exactly at 8 and ceased at 12 o'clock*; were very severe, and occurred at regular intervals of half an hour. Slept well since 12 o'clock. Bowels naturally moved, and without medicine.

7th.—As yesterday.

8th.—Tetanic paroxysms attacked her at 8 o'clock precisely, and left at 12. Slept well after that hour. Bowels not opened since the day before yesterday. *In full ptyalism*. Frictions of mercurial ointment to be omitted; to have a gargle of chloride of soda; and to take some house medicine immediately.

9th and 10th.—Sharp paroxysms every twenty minutes or half-hour from 8 till 11; mouth very sore. To have an oil draught and a draught containing a drachm of solution of muriate of morphia at night.

11th.—Expresses herself better to-day, having slept well, and had but three spasmodic paroxysms at the same period of the evening and night. Bowels not opened, as the castor-oil draught was omitted by error; to be given now.

12th.—Bowels opened by castor-oil; slept pretty well; had five spasmodic attacks last night, but much less severe; can open her mouth a little, but the muscles of the jaw and neck are still very rigid. The morphia draught to be repeated as before.

13th.—No paroxysms for the last twenty-four hours; in other respects as yesterday.

15th.—No paroxysms now for three days. Cervical muscles and those of the jaws so relaxed as to permit of her moving her head pretty freely from side to side, and to open her mouth to about half its utmost extent. Tetanic expression much less marked: gums better.

24th.—Improving every day since last report. Ptyalism gone; expression natural; general health perfect.

27th.—Discharged, by her own desire, cured; child alive, and apparently vigorous.

ART. 34.—*Report on Cases of Tetanus in the Jamsetjee Jeejeebhoy Hospital, from January, 1845, to December, 1851.* By J. PEET, Esq., Professor of Surgery in the Grant Medical College.

(*Trans. of the Medical and Physical Society of Bombay, New Series, 1851-52, Bombay, 1853.*)

This highly-interesting report refers to no less than 195 cases of tetanus. The statistics of these cases are very striking—145, or 74·3 per cent., terminated fatally;—out of the entire number there was only an access of 45 cases in favor of the traumatic variety of the disease. The relative mortality of the two forms is justly described as affording a very striking contrast to the statements of most systematic writers. The mild and tractable nature of the idiopathic variety, so generally adverted to, had not been observed. Thus, of 75 admissions for *idiopathic* tetanus, there were 57 deaths, a percentage of 76. Of 120 admissions for *traumatic* tetanus, there were 87 deaths, a percentage of 72·7. It thus appears that the idiopathic form is the more severe and fatal. Indeed, Mr. Peet thinks that the mortality of the traumatic form, as given above, has been over-stated. In analyzing 28 cases of the traumatic form, it was found that the interval between the receipts of injury and the occurrence of the disease ranged from 2 to 30 days.

In 81 fatal cases, the duration of the malady ranged from 1 to 39 days, the 2d, 4th, 5th, and 6th days being evidently the most critical, 46 cases terminating on those days. The author sums up his remarks with the following conclusions:—

- 1st. That the idiopathic form of tetanus is much more frequent in Bombay than in other parts of the world, and that, contrary to the experience of the disease in other places, it is more severe and fatal than the traumatic species.
- 2d. That it is often traceable to direct exposures at those seasons during which there are the greatest alternations of temperature.
- 3d. That, of the traumatic form, many cases are ushered in by distinct febrile symptoms; but there is not sufficient reason to conclude that this constitutional disturbance is evidence of any more decided state of inflammatory action in the nervous centres than is present in cases where febrile symptoms are altogether absent; nor would it appear that this febrile state is any indication of the severity or acute nature of the attack.
- 4th. That there is little doubt there exists in tetanus, as in most other diseases, a period of incubation, but that there are no facts to determine the length of time over which this state may extend.
- 5th. That in many cases the more marked symptoms are preceded by a peculiar expression of face (this has appeared to Mr. Peet to depend upon an apparent increase in breadth, the angles of the mouth being in some degree drawn outward, the lips compressed, and the eyelids slightly corrugated. This expression is observed to be very different from that present at a later period, in which the skin is wrinkled, the furrows of the face highly developed, the angles of the mouth depressed, and the whole appearance that which has been so well designated by the term "*risus sardonicus*"), and that this changed expression may exist for several hours before any other symptom of tetanus is present.
- 6th. That no reliance can be placed upon the frequency of the pulse as evidence of the severity or otherwise of the attack, but the condition of the pulse, in regard to strength, is of much importance.
- 7th. That hurried inspiration and dysphagia almost invariably indicate a fatal termination. The author is able to adduce but little in favor of any particular mode of treatment; he would, however, except from this general statement the assiduous use of nutritious food. In any plan of treatment this, he insists, should invariably be viewed as an essential element; and, in many cases, the favorable termination will, he is convinced, be more dependent upon it than upon the medicines employed.

ART. 35.—On the Employment of Chloroform in the Treatment of Tetanus. By Dr. JACKSON, Surgeon to the Native Hospital at Calcutta; Dr. LAURIE, Professor of Surgery in the University of Glasgow; and others.

(1) *Indian Annals*, Oct. 1853; (2) *Glasgow Med. Journal*, Jan. 1854; (3) *Philadelphia Med. Examiner*, Nov. 1853; (4) *The Lancet*, Dec. 10, 1853, and April 5, 1854; (5) *Dublin Hospital Gazette*, Feb. 1, 1854; (6) *Medical Times and Gazette*, April 22, 1854.

Chloroform inhalations have been recently tried in several cases of tetanus, and the spasm has always been suspended for the time; but it is difficult to arrive at any conclusive opinion respecting their remedial value, owing to the great discrepancies of treatment in other respects.

1. Dr. Jackson (*Indian Annals*) has drawn up a careful and valuable paper on the treatment of tetanus in the Native Hospital at Calcutta, "with a view of showing that great relief is afforded in that disease by the repeated inhalation of chloroform, added to the internal administration of extract of hemp and aloes, and, in the latter states, of quinia and generous diet; and that many more cases of recovery have resulted from this plan of treatment than from any other.

"It is worthy of remark, however, that the same beneficial influence does not appear to be exerted in the cases of idiopathic tetanus as in the traumatic form—this disease generally proving much more intractable, although the opinion is somewhat at variance with what is generally supposed to be the case. Only three cases of idiopathic tetanus came under treatment at the Native Hospital during the past year, and they all proved fatal, whilst out of twelve cases of traumatic disease there were seven recoveries, and only five deaths. According to the old plan of treatment adopted in the earlier part of the year there were five deaths out of seven admissions.

"The cases most favorable for recovery would appear to be amongst the females, especially amongst those who are free from all febrile disturbance and have no bronchial affection; where there is regular action of the bowels, and the nights are passed in sleep. Children under the age of five suffering from this disease do not bear the inhalation of chloroform well, and it is occasionally followed by the most distressing symptoms, so as completely to preclude its administration. Though in other cases of children, of even younger age, where operations are called for, the anæsthetic influence of the chloroform is very satisfactorily obtained, without any distress to the patient."

He gives the Indian hemp in doses of two grains every six hours, and repeats the inhalations every four hours.

2. Professor Laurie (*Glasgow Medical Journal*) has tried chloroform or ether inhalations in nine cases, all of which (except one of trismus) died. He is in favor of cautious and careful inhalations, but he is not very sanguine. After a very interesting review of the results of different plans of treatment which had been adopted in the Royal Infirmary at Glasgow, he proceeds—"If no remedy yet tried has done good, and many have done harm, how are we to treat tetanus? I reply, negatively; put the patient into a dark room, keep him absolutely quiet, don't torture him with remedies which have been proved to be useless, give him as much nourishment as he can swallow, and trust the result to the powers of his constitution. *And if the spasms are severe, alleviate them by chloroform.*"

3. Dr. Bretton (*Philadelphia Medical Examiner*) relates a case of traumatic tetanus which he considers to have been cured by chloroform inhalations.

4. Mr. Harding (*The Lancet*) speaks very warmly in favor of chloroform inhalations in tetanoid conditions, and relates a case of idiopathic trismus, of six weeks' standing, in which the spasm was relaxed by their means.

5. Dr. Symes (*Dublin Hospital Gazette*) details the particulars of a case of traumatic tetanus, in which the chloroform inhalations were used with great success.

6. Dr. Chambers (*The Lancet*) employed these inhalations in a case of idiopathic tetanus occurring in St. Mary's Hospital, and the spasms were always relaxed for the time; but the mode of treatment was ultimately abandoned in consequence of dangerous symptoms having occurred during one of the inhalations. The case recovered eventually.

7. Mr. Campbell de Morgan (*Medical Times and Gazette*) also, reports a case of traumatic tetanus in which he tried these inhalations. The spasm was always conquered for the time, but as its recurrence was not prevented, the remedy was abandoned. The patient died.

ART. 36.—*A Case of Catalepsy.* By Dr. COLDSTREAM.

(*Edin. Monthly Journal*, April, 1854.)

The case, the abstract of which is subjoined, was read at considerable length before the Medical and Chirurgical Society of Edinburgh, on the 19th of April, 1854.

CASE.—The patient was a lady, æt. 29, of sanguine temperament. She had labored some years before under lateral curvature of the spine, but her health continued good till 1852, when she was seized, while in the country, with the symptoms of simple fever, during the convalescence from which, she betrayed certain aberrations of intellect. She was brought into town for change of scene, and for some time she continued excited, capricious in her temper, and shunning society. In the course of the summer these symptoms disappeared, and in August she was in her usual state of health. Again, however, in September, she began to shun her friends, averting her eyes from persons who addressed her. During five months from October, she passed through many phases of mental complaints, and appeared disinclined to use her mental faculties. Prior to menstruation it was noticed that her head was hot and face flushed—symptoms, however, which were relieved by the flow. At this time she refused to speak, at times, for hours together: her silence was evidently voluntary. Her symptoms varied from time to time, but mental aberration was absent, though

she was still suspicious of her strength of mind. In March, 1853, she began to be obstinate, and complained of illness; she appeared depressed, and her extremities were observed to be cold. A few days after she threw herself from bed on the floor, and on her physician being announced, declared that she would never speak to him again. She kept her word, but was subsequently dumb to every one. She immediately became cataleptic. In April, the last phase of her disease made its appearance, and lasted till her death, which took place in the following September. There was catalepsy, extreme quiescence and rigidity, anæsthesia, and unwillingness to eat. She lay on her back, and seemed to be destitute of feeling and consciousness, except for one hour in the morning, when she busied herself at her toilette, but if any one entered she instantly became cataleptic, and remained so as long as the visitor was in the room. When any attempt was made to move her, her muscles instantly became rigid. Even the eyes and the auditory canal appeared to be in a state of anæsthesia. She never spoke but twice; once during the application of galvanism; and again a short time before death. No words addressed to her seemed to affect her, except on one or two occasions. Music had no effect upon her. Her attendants firmly believed, however, that she noticed all that passed around her. She slept regularly, muttered occasionally in her sleep, but there was no somnambulism. Her resistance to take food dated from the middle of April. The approach of the spoon to the mouth produced violent contractions of the muscles of the lips and jaws, the face becoming flushed during the struggle. For the sake of brevity, as the case was very protracted, Dr. C. classed the description of the symptoms under several distinct heads. And, 1. As to the cataleptic symptoms. They were always readily manifested when she was awake; a rude touch (a slight one was ineffectual), or any attempts at passive motion sufficed to produce them. They could be overcome, however, by exertion on the part of the attendants. She could balance her body on one limb, and maintain the posture for several minutes. A weight of 10 lbs. could be suspended on the extended arm from the wrist without deflection: a little more added to the weight, however, sufficed to pull the arm down. (In the case recorded by Heberden, 7 lbs. attached to the hand proved sufficient to bend the arm.) While in the horizontal position, she bore a weight equivalent to 12 lbs. on the lower limbs, when these were raised a short distance from the sofa. Uneasiness was only expressed by her on being made to assume for some time a half sitting posture, with the limbs placed horizontally. The eyelids were generally closed: on being touched, contraction of the orbicularis followed, but on force being used the elevators became cataleptic. The eyes were directed upwards, and had a vacant expression; the irides being more sluggish than natural. The symptoms were more pronounced in the after part of the day. The experiments that were made evidently induced fatigue, and on force being employed there were paleness of the face and quickening of the pulse. 2. As to the Quiescence. As already stated, for one hour only in the day did she move about, at other times not a muscle moved. Indeed, her appearance of absolute stillness produced a feeling of awe in the beholder, and almost induced the belief that we were looking upon a corpse. 3. The Anæsthesia. It was difficult to ascertain its extent correctly, as no response was elicited by any stimulus, except when galvanism was applied, and food was attempted to be introduced into the mouth. The most tender parts of the body were pressed, etc., etc., were touched by flies, or pricked with pins, and no shrinking was produced; yet, whenever an attempt to give food was made, violent movements took place. Noises, or nauseous substances in the mouth, had no effect upon her, but she winced under a bright light. The resistance to food appeared to have no connection with the kind presented to her; the gustatory nerves seemed as much affected as any other. The motions following the touch of the spoon showed that the lips were not anæsthetic; yet they, along with the face, were frequently seen covered with flies without the slightest motion resulting. The application of hartshorn to the nose only produced a flow of tears. 4. Speechlessness; at first only the will was lost, and it might be attributed to hysteria, and afterwards she was ashamed of her taciturnity; but the silence that came on subsequently with the catalepsy began with her determination not to speak to her medical man, though she extended it to every one. During sleep she occa-

sionally spoke; once during the action of the galvanic machine she called out "stop, stop," and when near death she faintly said "the sofa." 5. As to the resistance to the introduction of food. It was similar to what is observed in many cases of melancholia and mania. Even after emaciation had long existed, the attempt to feed her was attended with flushing of the face and a flow of tears, but the hands were never raised, or the head bent back in resistance. Food when once introduced into the mouth was seldom rejected, though it was swallowed slowly. Digestion seemed normal. The pulse became more quick as the atrophy progressed. There was no bruit at the heart, and the respiration was soft and slow, as if she were asleep. The urine was healthy, it was generally passed during the struggles at her meals. The catamenia appeared shortly after the first appearance of catalepsy, but not afterwards. Her temperature was low, and the extremities generally cold. Death took place by exhaustion six months after the first occurrence of the catalepsy: the muscles preserving their rigidity to the last. No post-mortem examination could be obtained.

The Causes.—The predisposing were present in her active, sensitive, and by no means robust frame. She had sustained a severe shock from the suicide of a young friend, about a year before her illness, but recovered from it sooner than had been anticipated. The friends could see no connection between this and her subsequent illness, but the author thought it was not improbable that the shock sustained at that time was the remote cause. As to the treatment; he at first feared melancholia or mania, and hysteric symptoms were also present, but he felt hopeful as to the issue of the case, as the patient was originally of a strong intellect, and of a cheerful disposition of mind, and from time to time there were signs of improvement. After the catalepsy set in, the head especially was attended to, and blisters, followed by turpentine enemata, valerian, valerianate of zinc, aloes, musk, cod-liver oil, &c., and, subsequently, the inunction of olive oil, were had recourse to. Electricity, gradually increased in strength, was tried, and, after a time, one wire was placed over the epigastrium, while the other was applied below the knee. Strong contractions of the abdominal muscles followed, the face was flushed, and the head raised from the pillow, while she cried out "Stop, stop." He was of opinion that she was rather injured than otherwise by the use of the galvanism, and the morning activity certainly lessened. Chloroform was administered on one or two occasions; she slept after it with her mouth more open than usual.

In the present case he was inclined to believe that there was slight organic disease of the brain, the result of the nervous shock which had been sustained, and which, in another individual, might probably have produced monomania. A remarkable circumstance was the absence of any lengthened remissions, which made the case differ from the other cases on record. He could not regard the malady as feigned, as no motive was discoverable for the production of the symptoms.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 37.—*On Paracentesis Thoracic in Pleuritic Effusion.* By (1) Dr. BOWDITCH, Physician to the Massachusetts General Hospital; and (2) Dr. TRACY, of Hollis (U. S.)

(1) *American Medical Monthly*, Jan. and Feb., 1854; (2) *New York Journal of Medicine*, Nov., 1853.

1. Dr. Bowditch's communication, which is a continuation of a former paper on the subject (vide *Abstract*, vol. xvi.) is an analysis of 25 cases, in which he either operated himself or saw others operate.

In his former paper eight of these cases are narrated, and certain practical results arrived at, which are expressed in the following words:—

"I shall puncture the chest; *first*—whenever, either in an acute or chronic case, I find a pleural cavity *distended* or *filled* with fluid; *second*—whenever, in any *acute* case, remedies seem to have but little effect towards causing an absorption of the fluid, and after a fair trial has been made of them for two, three, or four weeks; *third*—I shall puncture in cases of larger effusion, com-

plicated with organic disease, in the hope of relieving urgent dyspnoea or to lengthen life."

Now Dr. Bowditch says—

"I would not wait so long as 'three or four weeks' in acute attacks, provided I found that the effusion continued steadily to augment in spite of remedies. Moreover, if called in an acute case that has lasted a month, and in which there is an amount of fluid effused, sufficient to materially compress the lung, I shall advise a puncture, as the first step to be taken, previously to the use of the remedies commonly employed in pleuritic affections."

The 25 cases are numbered chronologically, and classed in four main divisions, according to the effect of the operation.

First class, or those cases in which the operation has been the chief or sole cause of the cure of the pleuritic effusion. Cases 1, 7, 8, 11, 12, 14, 15, 18, 20, 21 (total, 10), are of this class.

Second class, or those cases in which the puncture has given more or less, and at times very great temporary relief, so that some of the patients have asked for the operation a second, third, or fourth time, for the sole object of getting relief. Cases 2, 3, 4, 9, 10, 13, 16, 17, 19 (total, 9), are of this class.

Third class, or those in which no relief was obtained, because no fluid could be removed. Cases 5, 6, and 25 (total, 3), are of this class.

Fourth class, or those still under treatment, which are progressing favorably, with more or less rapidity. Cases 22, 23, 24 (total, 3), are of this class.

The cases subjoined belong respectively to the first and second classes. They are taken indiscriminately and without any selection.

CASE 15.—June 10th, 1853. Mrs. B—, I saw at E. Boston, with Dr. —; æt. 45. She was the mother of a large family, which she had usually superintended until her illness; but she had been considered tuberculous, and for months had used cod-liver oil, under which, previously to her actual attack, she had been tolerably well. For three months before I saw her, she had felt not quite so well. Six weeks previously she had had an acute pain in the right side, but it did not prevent her from going about the house. Three weeks before the operation she went to church all day. While dressing for this purpose, she was surprised to find that her gown was too tight, and she had some dyspnoea. She, however, continued at work for a few days, when, owing to an increase of the symptoms, she was compelled to desist, she lost her appetite; the cough became dry and hard; the dyspnoea was extreme, so that at length she could not get up into her chamber, and fits of suffocation occurred, threatening death.

I found her with an anxious, very livid countenance, in bed, half erect, pulse 115. Respiration much labored. On percussion, the right side was flat everywhere, except at the apex behind. Respiration scarcely heard, even under the clavicle, bronchial for a small space along the vertebræ from top to bottom, absent elsewhere. Puerile through the whole of the left.

I punctured between the eighth and ninth ribs behind, and drew eighty-three and three-fourths ounces of yellow serum. The patient experienced the greatest possible relief, and suffered scarcely at all, except at the last of the operation she had some stricture across the chest, and the cough was a little troublesome. The sounds on percussion instantly became more clear to the point of puncture. The bronchial respiration was replaced by the vesicular. Crackling was heard throughout the right breast, evidently from the expanding lung. The pulse fell to 108, and she was able to lie on the left side, in a position which nearly suffocated her only twenty minutes before the operation. She was allowed broth and wine. During the next twenty-four hours, she coughed much, and raised nearly a quart of frothy, white fluid.

I saw her, P. M., June 11th, and found her quiet, with much more easy breathing. She was much less livid, she relished her broth and wine.

From this time, she steadily progressed, the lung expanded rapidly, as marked by rales that were heard everywhere in it. The little fluid that remained in the pleural cavity was soon absorbed; the urine was much increased. The œdema of the legs, that existed before the operation, was wholly gone by the 20th (ten days after operation); the lividity of the skin had subsided. The appetite and

digestive functions improved, and were excellent at the above date; no dyspnœa; pulse 84, quiet; little cough; only felt weak. On percussion (20th), tenth day from puncture, there was only a difference of pitch between the two sides—no real dulness. Vesicular murmur was heard in every part, only a little less at the right than at the left, with a dry crackle at the top on coughing.

Sept. 23d. I found she had been going on well, though she was still feeble; scarcely any cough; digestion excellent; slight feeling as of pain or obstruction in the right side on full breath; was able to superintend her domestic affairs; she visited me at my office. On percussion, less sound at the *left* than the *right* top, and the voice was more resonant there; and I thought I heard, at times on coughing, a slight crackle there. Murmur obscure at the right apex. *Equal and clear in both lower lobes.* In other words, the signs were those of the previous chronic disease, the acute pleurisy having left little or no trace of its existence. Ordered to resume cod-liver oil.

CASE 16.—Mr. H—entered Massachusetts General Hospital, May 28th, 1853. Sick three months only; he first noticed a cough, which came on after an exposure to wet and cold—no hæmoptysis. He was very ill at his entrance into the hospital, and continued to grow worse, with signs of disease in both cavities of the thorax. Dulness on percussion was observed in the lower part of both backs; the respiration was rude and bronchial at the left; mucous and sonorous râles everywhere. He was supposed to have pleurisy of both sides, and disease of the lungs, probably tuberculous. On 11th of July, the report by Dr. Storer was as follows: "Has been gradually failing during the last week; greater dyspnœa; at each visit bathed in cold sweat; countenance haggard, although he constantly reports himself as comfortable; pulse usually was 120." On this day I operated, at the request of Dr. Storer, between the ninth and tenth ribs, and drew off twenty-three ounces of highly-colored serum. On the subsequent day the record was—"Comfortable day and night; respiration less labored; pulse 110; countenance more tranquil." He continued improving until the 17th, when the dyspnœa was augmented. He afterwards grew worse; Aug. 5th, I punctured anew, and drew off thirteen ounces of colored serum. Little relief ensued, and he soon afterwards left the hospital to die.

The conclusion from the clinical evidence is,—

"First, No one of the patients operated on experienced a single dangerous symptom, or any materially unpleasant symptom, except for a short period.

"Secondly, Out of twenty-five persons, only three failed of obtaining relief. Of these three, two had had pulmonary (probably tubercular) disease; and from the other no fluid could be drawn, owing, perhaps, to an imperfection of the instrument which I used in my earlier operations.

"Thirdly, In more than half of the cases, the puncture was the first remedial agent that decidedly arrested the progress of the disease. This it did in two modes. 1st, by allowing the lung to expand immediately, and producing thereby a rapid cure. 2d, by so stimulating the functions of the body, made torpid by long disease, that they immediately sprang into healthful, vigorous action, while the lung expanded more slowly.

"That this stimulus which I have mentioned as occurring in the second class, actually takes place in many cases, I am sure. I have so repeatedly noticed it that I now confidently hope for its occurrence, when I do not find that a case, after a puncture, is likely to be of the first class. I do not mean to state that the stimulus shows itself immediately, or that it acts with rapidity in every case, but simply that from the moment of drawing off the fluid, I have been able to trace a series of favorable influences tending towards health.

"Fourthly, In about *seven-eighths* of the cases, the operation has given *great relief* to prominent and distressing symptoms, insomuch that the patients have asked for a second, third, or fourth puncture, as a means of relief only."

The symptoms consequent upon the puncture were very similar to those reported in my former paper. The pain of the puncture was the chief trouble, and this, as it was momentary, was but little noticed by the majority. Stricture across the chest was occasionally noticed towards the end of the operation. The cough was augmented in many. This I regarded as a favorable sign, as it usually indicates that the compressed lung is beginning to expand. In one case

this symptom was excessive, it having lasted twenty-four hours almost without intermission. In this case the lung arose instantly from its compression. One had vomiting of her dinner, the operation having been done in the afternoon. In all, where fluid was obtained, the oppression was somewhat relieved; in one, impending suffocation was prevented. Most of the patients were exhilarated by the success of the operation, as in our previous set of cases. In one, there was a slight oozing of blood from the point of puncture, which, however, was easily checked.

"The *pulse* remained tranquil, as much as it was before the operation.

"The *digestive* functions were improved. In all, where much fluid was obtained, the appetite was improved with singular rapidity. One person asked for food before we left the house.

"The *urine* was augmented frequently by the operation, a fact which I noticed often when analyzing the first set of cases.

"In *none* was the fever augmented, or a febrile paroxysm excited.

"The physical signs altered slowly in some cases, in others very rapidly. The patient in case 15, having been ill a few weeks, presented the phenomenon of the lung completely expanded and filled with râles the next day after the removal of five pints of fluid. Generally, however, a more slow process was carried on, the lung expanding in the first few hours only along the vertebræ and at the apex, and thence more or less gradually rising to meet the parietes of the chest; the parts under the axilla being, of course, the last to fill out. In some instances, that state of the lung described by Dr. Gairdner, remained for months, the patients being nearly free from all rational symptoms of disease, save, perhaps, a tendency to dyspnœa."

The character of the fluid drawn from the chest varied. By a reference to the tabular statement, it will be seen that from forty-seven punctures, the following results were obtained.

TABLE II.

Nothing,	.	.	.	.	.	.	.	5 times.
Serum, a few drops only (2 cases),	.	.	.	.	.	.	.	4 "
Serum in large quantities,	.	.	.	.	.	.	.	16 "
Pus, or purulent,	.	.	.	.	.	.	.	17 "
Bloody,	.	.	.	.	.	.	.	5 "

The *quantity* of the fluid varied considerably; three ounces being the smallest, one hundred and seventy ounces being the largest. In this latter case it was pure pus.

The influence of the character of the fluid, the length of the disease previous to the operation, and the existence or non-existence of previous disease, may be learned by the following series of tables.

TABLE III.

Character of the Fluid in the Chest.	Serum.	Pus.	Bloody.	Total.
Recovery from pleuritic effusion, . . .	7 cases,	5 cases,	1 case,	13 cases.
Death afterwards, consequent upon the effusion and previous disease, . . .	3 "	4 "	. .	7 "
Friction sound heard, but death a few weeks after from disease of brain, . .	1 "	. .	. .	1 "
Under treatment, doing well,	1 "	. .	. .	1 "
Under treatment, with prospect of months of illness,		2 "	. .	2 "
				— 24 cases.

"It seems, therefore, that the presence of serum is more favorable for the prognosis than is the existence of pus. This only confirms our preconceived notions, but it is rather different from the opinion I advanced in my previous paper, the facts contained therein not allowing me to hold the opinion I now advance."

The next important element in the prognosis is the length of time the disease has lasted previous to the operation. The following table will show this:—

TABLE IV.

		Serum.	Pur.	Bloody.
Average time before punc- turing, in cases of	recovery,	2½ months,	2 months,	
	death,	3 " "	4½ " "	3 months.

Whence it appears that whether pus or serum exists, an early operation is more favorable than a later one.

The influence of the existence or non-existence of previous disease may be illustrated by the following:—

TABLE V.

	no disease immediately preceding the effusion.	Of those who had cough, and were probably phthisical.
Recovered from the effusion,	10	4
Died with effusion remaining,	0	6

“ From this table we infer, what, in fact, we knew before, that pleuritic effusions, uncombined with serious pulmonary disease, do not usually destroy life. I cannot but think; however, that in case No. 2 the operation may be said to have saved life, for a time, at least. In case 15 I have no doubt suffocation would have taken place, had not the operation been performed.

“ Another interesting inference is suggested by this table, viz., we observe that of 10 who had organic diseases, 4 were cured of the pleuritic effusion: 6 died. Now, the puncture was the *sole* cause of the cure of these four, for the lung expanded in all of them within twenty-four hours or a few days after the operation was done. No other cause operated, and therefore to the thoracentesis we must attribute the cure. Is there any physician that can say as much of any other method of cure under similar circumstances? Is there any remedy which will cause an absorption of five pints of fluid in twelve hours, and allow a lung that has been compressed for months to be thoroughly filled with air in twenty-four hours?

“ In confirmation of these remarks, and to give the reader a more definite idea of the *amount* of influence the puncture had towards the *cure* or *relief* of the effusions, I submit the following data taken from my own cases, compared with similar data obtained by the courtesy of Mr. Scarem, at present house-pupil of the Massachusetts General Hospital, from the records of that institution. In preparing my own, I have taken, *first*, all those cases in which the lung, after having been for weeks, or perhaps for months compressed, has suddenly expanded, within twelve or twenty-four hours after the puncture; *second*, those in which the stimulus above spoken of was given to the various functions of the body, so that all the rational signs grew decidedly better from the moment the fluid was evacuated, while the long-compressed lung dilated but slowly.

“ In the first, the lung expanded immediately, or within twelve hours after the puncture. In the second, the lung, on an average, in 32½ days, or 4½ weeks after the puncture.

“ I think no one can doubt that paracentesis *cured* the disease in the first class of cases. In proof that it aided very materially toward the same results in the second class, I present the subjoined table of comparison between my cases and those treated at the Hospital.*

* This table is founded on data drawn from fifty-four cases of pleuritic effusion found recorded in the books of the Hospital, between Jan. 4, 1847, and Sept. 9, 1853. In it I have made use of those cases only, in which the disease could be traced by the rational and physical signs to its termination in the Hospital; or, if the patient left the Hospital before recovery, but after a *long* residence at the institution, I have added the sign + to the number of months the case was under the care of the institution. From my own cases, I have only taken those of a similar character, viz. Nos. 1, 7, 8, 11, 12, 15, 18, 20, 21.

TABLE VI.

Length of time the disease lasted.	HOSPITAL CASES.		MY CASES.	
	Whole length of the disease.	After entering hospital.	Whole length of the disease.	After Thoracentesis.
Average duration in cases of complete filling of one pleural cavity	12 + weeks	6½ + weeks.	13 weeks.	3 weeks.
do partial do.	12 "	6½ "	9½ "	4 "

"Supposing all these data to be *absolutely* correct, I might draw from them the following propositions:

"1st. *One pleural cavity being full of fluid*—a. Thoracentesis shortens the disease more than one half.

"2d. *One pleural cavity being partially filled*—b. Thoracentesis shortens the disease more than one third.

"I do not, however, present them as absolutely correct, but merely as approximations to the truth. But I do not see that any one can deny, that puncturing the chest does very materially shorten, and consequently alleviate the sufferings of a patient affected with pleuritic effusion. As if in confirmation of this view, we see that although it appears, in my cases of complete filling of the pleural cavity, that the whole duration of the disease was perhaps as long as it was in the hospital cases, nevertheless there was this great difference of time after the two treatments were commenced, before the effusion was removed, viz: those treated by paracentesis getting well in half the time required by the hospital treatment. I do not believe, however, that thirteen weeks shows the duration of the disease as it will be when tapping is resorted to with as much freedom as we resort to calomel, blistering, &c. For this period of thirteen weeks is really owing to one case, which had lasted *seven months* before a puncture was made. Excluding this case from the calculation, we shall get 7½ weeks as the average total duration of cases of pleurisy treated by paracentesis, in connection with other remedies. I will go still farther, and avow my belief that ere long, when we shall puncture *early* after an effusion has occurred, the disease will often be relieved in a much shorter time even than 7½ weeks."

Dr Bowditch is in favor of medicated injections after the operation. He thinks the recent observations and experiments of MM Boinet and Aran, in Paris, prove conclusively, not merely the safety but the advantage, in some instances, of injections of tr. of iodine.

The paper concludes with a quotation from a letter to Dr Bowditch "from a gentleman well known in this country and in Europe, and who has had as much experience on this subject as any other individual on either side of the Atlantic." Under the date of June 2d, 1852, this gentleman writes, "It has indeed surprised us as well as yourself, that so simple, so harmless, and so beneficial an operation (when proper precautions are taken, by competent observers), has been so little regarded in America or England, where it most strangely continues to be esteemed as a most important and serious one." "It may be interesting to you to know that I have myself been present at, directed, or superintended, at least eighty, and, I quite believe, one hundred operations of paracentesis thoracis" [by puncture with an exploring trocar and the subsequent introduction of a larger one, and without the use of any suction pump], "and I never knew it, in any of those cases, do any injury; that in a vast majority of these instances, it has been attended with marked benefit; and that in many, where a cure was possible, it has been the important element in effecting that cure."

2. Mr Tracy relates the case of a child æt. 7, in which paracentesis thoracis was performed for pleuritic effusion with the most beneficial results. He says:

I was first called to see this patient on the 26th of June, 1853, and was told by the mother that he had enjoyed good health until about three months previously when he caught cold by going into a pond, and since then had been troubled with dyspnoea, and pain in the left side, and had gradually been declining.

I found him in the following condition: habit scrofulous, emaciation great, anorexia, pain in left side, and most marked on full inspiration, dyspnœa, pulse 120, tongue coated. Examination of the chest gave the following signs: dulness over entire left lung, and increased resonance over right; absence of all respiratory sound on the left side, and puerile respiration on the right; point of the heart's impulse full two inches to the right of the mesian line; bulging of left intercostal spaces.

July 2d.—I was called in haste, and found the patient laboring under urgent dyspnœa, and speechless. The pulse was very weak, and, according to the nurse, it was imperceptible at the wrist an hour previously. Under the free use of stimulants, and the application to the chest of camphor and ether, he gradually revived.

July 3d.—From this date till the 7th, the patient lay on his back, inclining to the left side, with head raised, and nostrils wildly dilated. The gravity and urgency of the symptoms continued, and he was evidently sinking every hour.

July 7th.—This morning, chloroform having been administered, the operation of puncturing the thorax was performed by Dr. Graves, Dr. Lyford and myself being present. An incision was made with the scalpel between the 6th and 7th ribs, and a trocar introduced, through the canula of which a quart of straw-colored serum escaped; and, at each inspiration, air freely entered the wound. On withdrawing the instrument, adhesive plaster with a binder was applied. In the afternoon I saw the patient again, and found his dyspnœa relieved, and his pulse at 110. He said, "I feel much better, and I can breathe easier."

July 8th.—Continues to improve, and amuses himself with his playthings; pulse 120, and tongue less coated; a blister was applied to the side.

July 9th.—Tongue clean and moist, pulse 120, steady.

July 15th.—Pulse 115, tongue clean, appetite good, heart gradually returning to its proper place, and bronchial respiration can be heard in the left lung.

July 22d.—The patient has gradually gained strength and flesh, and now walks out. The left side measures half an inch less in circumference than the right, and the respiratory sounds in the left lung are distinctly audible, though faint. He has no cough or dyspnœa, and his appetite is good. There is air yet in the pleural cavity; the position of the heart is nearly natural.

Aug. 1st.—Gains flesh rapidly, pulse 100, the heart in its natural situation, and the function of the lung restored.

ART. 38.—*Case of Alternate Apnœa and Accelerated Breathing.*

By Dr. SIBSON, Physician to St. Mary's Hospital.

(*The Lancet*, March 18, 1854.)

The following interesting case was related at a recent meeting of the Harveian Society.

CASE.—The patient, æt. 74, was admitted into St. Mary's Hospital on the 20th of January. Excepting rheumatism and a slight winter cough, he enjoyed good health until nine months previously, since which period he had suffered from cough and dyspnœa; he did not leave off work until six weeks before admission, when his legs began to swell. Within the month he had three attacks of sudden insensibility, in which he fell to the ground, remaining unconscious from a few minutes to half an hour. On admission, legs much swollen, from œdema; urine albuminous; veins of neck and temples swollen, diminishing somewhat on inspiration; heart's impulse feeble, just perceptible; liver low; breathing, vocal vibration, and resonance on percussion better over right dorsum than left. The respirations varied remarkably in depth. After a pause of about five seconds they gradually increased from three or four-hundredths of an inch to from forty to seventy-five hundredths, and then decreased steadily until there was a renewed pause of about five seconds. The respirations increased, diminished, and came to a stand still in renewed succession with remarkable regularity, the pauses succeeding each other at intervals of about a minute. On the 26th the pauses recurred in about sixty seconds; they varied in duration from six to twenty seconds; the idea being sometimes conveyed that he had actually ceased to

breathe; there were from twenty to twenty-four respirations between the pauses. The pulse was more quick and regular during the pause, being then thirty-two in twenty seconds, than during the period of accelerated breathing, when it was twenty-five in 203, the pulse being strong during the expiration, intermittent during the deep inspirations. This character of respiration continued during the whole of the time that he was in St. Mary's Hospital, from the 21st of January, to the 3d of March, when he died. On the 13th of February the mouth was opened at each inspiration, the upper jaw being raised by a slight action of the muscles at the back of the neck, which lower the occiput. During the pause the eyes nearly closed, and he became unconscious. From this date he gradually declined, his mind wandered, his strength diminished. The deeper respirations became less full, rising only to twenty or twenty-five hundredths of an inch instead of forty, fifty or even eighty. On the 21st of February, there was an interval of seventy seconds between the beginning of one pause and that of the next—each pause lasted about fifteen seconds, and the number of intermediate respirations being from twenty-six to twenty-eight. On the 28th of February the right ninth rib moved outwards, during the deep inspiration, the fifteen-hundredth of an inch, while the left ninth fell in fifteen-hundredth. There was fluid in the abdomen, and great œdema of the lower limbs. On the 1st and 2d of March the intervals from pause to pause were forty to forty-five seconds; the number of intermediate respirations twenty to twenty-two. A soft systolic bruit to the left of the nipple was audible during the whole period that the patient was under observation until the last day or two, when it was no longer audible. The temporal arteries were constantly full during the last few days of life.

On *post-mortem* examination the heart was found to be greatly enlarged, the walls being thickened, the cavities dilated, the left ventricular walls were nearly an inch in thickness, the mitral and aortic valves were somewhat thickened and atheromatous but appeared as if they would prove nearly adequate to their function; the aorta in its whole length was much dilated, and was studded with atheromatous and calculous patches of various size and thickness. The arteries at the base of the brain were atheromatous. There was much fluid in both pleural sacs, particularly the left; the left lower lobe being almost completely condensed by the fluid in which it floated. The bronchial tubes were dilated and congested, and the pulmonary artery and its branches were large. Brain healthy. subarachnoid effusion. The kidneys were hard, small and granular. There was a calculus in the pelvis of one kidney.

The state of respiration in this case closely resembled that in a case of fatty degeneration of the heart described by Dr. Cheyne—"The only peculiarity in the last period of his illness, which lasted only eight or nine days, was in the state of the respiration. For several days his breathing was irregular, it would entirely cease for a quarter of a minute, then it would become perceptible, though very low, then by degrees it became heaving and quick, and then it would gradually cease again. This revolution in the state of his breathing occupied about a minute, during which there were about thirty acts of respiration." Dr. Stokes, who quotes this case, states that this symptom may be looked for in many cases of fatty degeneration. The patient may remain for such a length of time in a state of apparent apnoea "as to make his attendants believe that he is dead, when a low inspiration, followed by one more decided, marks the commencement of a new ascending and then descending series of inspirations. This symptom, as occurring in the highest degree, I have only seen during a few weeks previous to the death of the patient." In Dr. Sibson's case this remarkable symptom lasted during the whole period that the patient was in the hospital—from the 13th of January to the 3d of March, when he died.

ART 39.—Observations upon Gangrene of the Lung, treated successfully by Turpentine Inhalations. By Dr. SKODA.

Medical Times and Gazette April 15, 1853, and *Zeitsc für K. K. Gesellsch. der Aertze zu Wien*, 1853, t. ix, p. 445.)

Four cases of gangrene of the lung have been treated by Professor Skoda in the following manner: The essence of turpentine is poured upon boiling water,

and the patient is directed to inhale the vapor for fifteen minutes every two hours. Sulphate of quinia is administered also in the usual doses. The first case was that of a servant affected with limited gangrene of the superior lobe of the right lung. After six weeks of this treatment, it became impossible to detect either infiltration or gangrene of the organ. On the contrary, the respiratory murmur had returned over the whole region. Three months afterwards the patient was seen in good health.

In the second case, an innkeeper of mature age and strong constitution, became the subject of a gangrenous cavity in the lower lobe of the right lung, consequent upon disease commencing March 11th, 1852. On March 21st, the patient commenced the inhalations of the vapor of turpentine: he continued, without repugnance, for five or ten minutes every two hours, taking, at the same time, the usual doses of quinia.

At the end of three weeks, the expectoration, which had been extremely abundant (a pint and a half daily), became reduced to a quarter of a pint. The inspirations had been employed four times a day. At the end of six weeks, the patient could quit his bed. His strength was returning, the appetite was improved, and his general aspect favorable; but the expectoration continued to be fetid from time to time, and was always sanious. The right side of the chest was painful, and respiration labored, but the air entered the circumference of the lower lobe; the respiration being uncertain and accompanied by feeble râles and sibilance. The patient went into the country, where he continued the turpentine inspirations twice a day up to the middle of July, when both cough and expectoration had entirely disappeared.

In the month of December, 1852, he came to M. Skoda for a certificate of health. There was no pain, nor oppression, nor cough. He had recovered his *embonpoint* and his strength; there was no retraction of the thorax; vesicular respiration everywhere.

In the third case it was not in the Professor's power to persist in the plan. The fourth case is still under treatment. A butcher, of strong constitution, had a gangrenous cavity in the inferior lobe of the left lung. He fell ill about the end of May, 1852. The inspirations of turpentine were commenced June 4th. At the end of a week, the fetid expectoration, which daily equalled two pints, had entirely disappeared, and the patient considered himself well, because the pain and the oppression in breathing had diminished, the appetite was returned, and the sleep was tranquil. He therefore left off inhaling the turpentine, which was extremely disagreeable to him.

On June 19th there came on a severe shivering fit, with cough and dyspnœa, and during the following night the patient expectorated several pints of extremely fetid sanies of dirty brown color. The inspirations were recommended, but the patient used them as little as possible, on account of the irritation which they produced in the air-passages. In eight days the quantity of matter brought up had greatly diminished, and the pulse was normal, but there was pain in the chest. The patient lay immovable upon his back in a state of great weakness and prostration; there was no appetite. The lower lobe of the left lung was impervious to air. The inspirations were again suspended, but again recommenced on account of recurrence of the bad symptoms; the disagreeable odor of the turpentine being partly rectified by a few drops of the essence of rose. About the middle of October he was able to go into the country, having recovered strength sufficient to leave his bed; nevertheless there remained a sense of oppression and pain under the left scapula. At the end of January he considered himself well. There was a sudden expectoration of two ounces of blood, after a slight fit of coughing, on February 10th, probably proceeding from the callous walls of a former gangrenous cavity; but there are no signs of further infiltration, and the case seems likely to terminate well.

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 40.—*The Diagnosis of Functional Affections of the Heart.*

By Dr. CORSON, Physician to the New York Dispensary.

(Pamphlet, New York, 1854.)

Among much useful and interesting matter is the following table:—

In Functional Heart Affections:

Præcordial dulness on percussion is not permanently *extended*, nor the *apex displaced*.

The *impulse* in *plethora* is strong *bounding*; in *irritation*, smart *knocking*; in both, widely *jarring*; in *debility*, small, soft *tapping*, sometimes *hurried*.

The whole *movement* of the heart is more *elastic, light, or easy*.

Functional murmurs are soft *blowing, aortic and systolic*; are from *anæmia*, and usually with the venous hum in the neck.

Functional is more *paroxysmal*.

Active exercise is often well borne, and *benefits*.

The *causes* are mainly *dyspepsia, anæmia, plethora, nervous or generative disease*.

In Organic Heart Disease:

Præcordial dulness in enlargement is permanently *extended*, and the *apex crowded to the left*.

The *impulse* in *hypertrophy* is strong, broad *heaving*; in *dilatation*, weak, wide *flapping*; in both together, strong, large *bulging*; in all with *extended dulness*.

The whole *movement* of the heart is more *dead, clumsy, or labored*.

Organic murmurs are *harsher, louder, often grating, aortic or mitral, systolic, or diastolic, or both*, and very rarely with *anæmia* or venous hum.

Organic is more *uniform*.

Active exercise always *aggravates*.

The most common *causes* are, first, *rheumatism*; and next, *Bright's disease*.

ART. 41.—A case of Angina Pectoris, resulting from the Use of Tobacco.

By Dr. CORSON, Physician to the New York Dispensary.

(Pamphlet, New York, 1854.)

The following case possesses a very high degree of interest:—A highly intelligent man, aged sixty-five, stout, ruddy, early married, temperate, managing actively a large business, after premising that he commenced chewing tobacco at seventeen, swallowing the juice, as is sometimes customary, "to prevent injuring his lungs from constant spitting,"—and that years after he suffered from a *knawing, capricious appetite, nausea, vomiting of meals, emaciation, nervousness, and palpitation of the heart*, dictated to Dr. Corson, recently, the following story:—

"Seven years thus miserably passed, when, one day after dinner, I was suddenly seized with intense pain in the chest, gasping for breath, and a sensation as if a *crowbar were pressed tightly from the right breast to the left, till it came and twisted in a knot round the heart, which now stopped deathly still for a minute, and then leaped like a dozen frogs*. After two hours of death-like suffering, the attack ceased, and I found that ever after my heart *missed every fourth beat*. My physician said that I had organic disease of the heart, must die suddenly—and need only take a little brandy for the painful paroxysms, and I soon found it the only thing that gave them any relief. For the next twenty-seven years I continued to suffer milder attacks like the above, lasting from one to several minutes, sometimes as often as two or three times a day or night; and to be sickly-looking, thin, and pale as a ghost. Simply from revolting at the idea of being a slave to *one vile habit alone*, and without dreaming of the suffering it had cost me, after *thirty-three years' use*, I one day threw away tobacco forever. Words cannot describe my suffering and desire for a time. I was reminded of the Indian, who, next to all the rum in the world, wanted all the tobacco. But my firm will conquered. In a month my paroxysms nearly ceased, and soon after left entirely. I was directly a new man, and grew stout and hale, as you see. With the exception of a little asthmatic breathing, in close rooms and the like, for nearly twenty years since I have enjoyed excellent health."

On examination, Dr. Corson found the heart seemingly healthy in size and structure, only *irregular, intermitting still at every fourth pulsation*.

ART. 42.—On the characters by which Pericardial Friction Sounds are distinguished from Valvular Murmurs. By Dr. BELLINGHAM.

(Dublin Medical Press, Jan. 4, 1854.)

The attrition sounds of pericarditis have been, and are still, by inexperienced auscultators, sometimes mistaken for, or confounded with, valvular murmurs.

In the great majority of cases, however, the distinctive characters of the two classes of sound are well marked and quite characteristic. We are therefore somewhat surprised at M. Skoda's assertion, that he knows no sign by which the friction sounds of the pericardium can be distinguished from the internal murmurs of the heart, excepting this, that the internal murmurs correspond pretty exactly to the rhythm and to the natural sounds of the heart; whilst the pericardial friction sounds seem to follow upon the movements of the heart. This distinctive sign is only available when the murmur is somewhat prolonged; if it be of short duration, we cannot determine whether it is endocardial or pericardial.

Some difficulty might certainly be experienced in making the diagnosis, if the heart's action was exceedingly feeble; if the pericarditis was complicated with pleuritis, or bronchitis with loud bronchial râles; if the subject was an infant, or dyspnoea was so extreme that a proper examination could not be made. These, however, are exceptional cases; when attrition sounds are present, they may always, in my mind, be distinguished from valvular murmurs by attention to the following rules:

1. Attrition sounds, as a general rule, give a sensation of friction or rubbing, and are usually rough, grating, or creaking, never blowing. Valvular murmurs, on the other hand, are usually blowing.

2. Attrition sounds are usually double, and the second sound is loudest at the same part of the chest as the first. Valvular murmurs, on the other hand, are usually single; and when double, the point at which each is best marked is different.

3. Attrition sounds are generally loudest over the middle of the sternum or immediately above the nipple. Valvular murmurs, on the other hand, are often loudest about or below the apex of the heart.

4. Attrition sounds are not audible in the course of the large vessels which come off from the aorta, nor are they heard in general much beyond the precordial region, in both which situations valvular murmurs are frequently audible.

5. Attrition sounds give the impression of being more superficial and near than valvular murmurs, and are often accompanied by a fremitus, perceptible to the hand laid on the precordial region.

6. Attrition sounds are sometimes audible only in the erect or sitting posture, or are developed or increased in intensity when the patient leans forwards, or when pressure is made with the stethoscope. Valvular murmurs, on the other hand, usually present the same characters in every position of the patient, and are not influenced by pressure upon the precordial region.

7. Attrition sounds are usually of short duration, vary in intensity at the same part of the chest at short intervals, disappear under treatment, or subside altogether within a limited period. Valvular murmurs, on the other hand, present the same characters at the same part of the chest for a lengthened period, do not disappear readily under treatment, and seldom subside altogether.

8. Attrition sounds may obscure, but they do not interfere with the intrinsic sounds of the heart. Valvular murmurs on the other hand, either replace the normal sounds, or prevent them from being heard.

ART. 43.—*Notes on Pericarditis, Endocarditis, and Organic Disease of the Heart and Aorta, as observed chiefly in the Jamsetjee Jeejeebhoy Hospital, at Bombay.*
By Dr. MOREHEAD.

(*Indian Annals of Medical Science*, Oct. 1853.)

In this memoir Dr. Morehead alludes to the impression entertained by Drs. Bird and Chevers, that acute rheumatism in India is rarely associated with pericarditis or endocarditis. He considers that we do not, as yet, possess the data which can justify a comparison between the pathology of the diseases of the natives of India, and that of the diseases of the natives of European countries, still he believes that pericarditis and endocarditis, with consequent organic heart disease, are as common accompaniments and results of acute rheumatism in Bombay as in Europe. Dr. Morehead gives the histories of 49 cases of disease of the central vascular organs, which were observed by him

during the four years ending April, 1852, among 16,746 admissions. In 17 cases, the disease was associated with acute articular rheumatism. In 16 the rheumatism was present at the period when the heart-symptoms appeared, and afterwards co-existed with them. In one case the rheumatic symptoms were not present with the cardiac symptoms, which occurred in an individual who had some years previously suffered from an attack of acute rheumatism, and in whom the diathesis, at the period of the attack of pericarditis, may be assumed to have been present. Of these 17 cases, 8 were Hindoos, 6 Parsees, 2 Christians, and a Mussulman; of their number, 6 were of pericarditis alone, 4 of endocarditis, and 7 of pericarditis and endocarditis combined. All the cases of endocarditis—simple or combined—were, with one exception, associated with rheumatism. The relation of the heart affection to previously-existing rheumatism was apparent in 27 of the 49 cases detailed, and the author believes that, in all probability, it would have been evident in a still greater number, had the records of all the cases been equally complete. Dr. Morehead considers that, in India, acute articular rheumatism may not be so common as in colder climates; yet that it is by no means an unfrequent occurrence, and that it is, therefore, as incumbent on the practitioner in India as in Europe, carefully to watch and search for the physical signs of pericarditis and endocarditis in every case of acute rheumatism.

ART. 44.—*Case of Aneurism of the Aorta Communicating Spontaneously with the Superior Cava (Spontaneous Varicose Aneurism).* By Dr. MAYNE, Lecturer on Medicine in the Carmichael School of Medicine.

(*Dublin Quarterly Journal of Medicine*, Nov. 1853.)

The following case is of sufficient importance to be specially recorded.

Anne Flynn, æt. 50, was admitted into the hospital of the South Dublin Union, on April 22d, 1853.

She had been employed the day previously in the laborious occupation of scouring buckets, and whilst stooping for this purpose she suddenly felt as if strangled. So perfect was this illusion that for some time she could scarcely divest herself of the belief that there was a ligature around her throat. At the same moment her face exhibited a remarkable change in color, which was immediately observed by the bystanders; her breathing became greatly embarrassed, and she felt an indescribable sense of suffocation, accompanied by an extreme degree of giddiness.

It was with difficulty that she made her way to bed, where she spent a wretched night, not venturing to lie down for a single moment, so great was her fear of suffocation.

Next morning, on seeing her for the first time, I ascertained that she was a married woman with five children; she had never suffered from syphilis, nor from rheumatism, nor had she ever taken mercury. She had been for the greater part of her life employed as a thorough servant and laundress, situations which required much bodily exertion; her health, however, had been excellent up to her forty-fourth year, when, without any very assignable cause, she began to suffer from slight dyspnœa and palpitation of the heart on straining or making any unusual exertion, such as walking quickly, or going up stairs. She had never suffered from cough, hemoptysis, fainting fits, or epilepsy; but of late years, on two or three occasions, her breathing had become greatly oppressed, and she then experienced immediate relief from a moderate venesection.

Notwithstanding these ailments, she continued at service until about six months ago, when she was compelled, by increasing infirmity, to relinquish her employment. The stooping posture which she was obliged to assume when washing was her chief difficulty, for it invariably produced puffiness of the eyelids, a swollen condition of the face and hands, and some embarrassment of the breathing.

On seeing this woman my attention was at once arrested by her color; it was that of cyanosis; her face was of a deep plum color; so were her neck, her shoulders, and the upper parts of her chest. The contrast was very remarkable between these parts and the lower portion of the trunk and inferior extremities,

which were pale in color, and almost bloodless in appearance. The eyes were prominent, they appeared as if starting out of the orbits, and in both of them there was extensive sub-conjunctival œdema. The face, both sides of the neck, and the upper and anterior parts of the chest, were much swollen and puffy, so that the clavicles were fairly buried in the swelling. The swollen parts afforded upon pressure neither the pitting of anasarca nor the crackling of emphysema; to the finger they felt soft and downy, just like an emphysematous lung.

The veins of the head, the neck, the upper extremities, and the upper part of the chest, were all enormously distended, and in many instances even varicose. The superficial jugulars (particularly the right) were turgid, and as large as the index finger. In a word, *all the tributaries of the superior vena cava* were intensely congested, and all the soft parts from which these tributaries spring were swollen and discolored, whilst *the tributaries of the inferior vena cava, and the corresponding soft parts*, were perfectly free from the slightest trace of congestion, tumefaction, or discoloration.

The arterial circulation was apparently unobstructed; in both the radial arteries, and also in both the femorals, the pulse was full, strong, and about 110 in frequency; it had, however, the jerking character usually associated with aortic valve inadequacy.

It is material to add, that this woman sat up in bed almost instinctively, for whenever she attempted to lie down for a moment her face assumed a deeper dye, and a sense of impending suffocation compelled her to resume the upright posture.

Percussion and auscultation showed that the left lung was everywhere healthy; so was the right lung *posteriorly*. In front, however, the chest sounded extensively dull on percussion; the dull region extended from the sternal third of the right clavicle *above*, to within one inch of the right nipple *below*; anteriorly it was bounded by the left margin of the sternum: the sternal extremities of the three superior right ribs, the corresponding costal cartilages, and intercostal spaces, and the upper half of the sternum, were consequently comprised in this dull region.

At the sternal extremity of the second rib, on the right side, and along the adjoining intercostal spaces to the sternum, a very remarkable, heaving impulse was communicated to the hand as well as to the stethoscope; this impulse was single and systolic; it was also plainly visible when viewed sideways, and vastly exceeded in point of strength the impulse communicated by the apex of the heart itself. An extremely distinct *frémissement*, and a remarkably loud whirring *bruit*, accompanied this abnormal impulse. To the ear the *bruit* conveyed the sensation of being situated very superficially within the chest: it was single and systolic, and had its maximum of intensity at the costal cartilage of the second rib; there was scarcely any part of the chest, either anteriorly or posteriorly, at which this *bruit* was not plainly audible; but its intensity diminished exactly in proportion to the distance from the costal cartilage of the second rib, right side, and thus it was impossible to doubt that the organic source of the murmur was there situated.

The region of the heart afforded no abnormal dulness; the rhythm of the heart appeared natural; but the loud whirring *bruit*, above described, was transmitted over the entire præcordial region, and rendered an accurate exploration of the heart's action difficult.

In the upper and anterior portion of the right lung the respiratory murmur was absolutely inaudible, and from the right nipple to the lower margin of the chest in front it was likewise exceedingly obscure, although in that region the sound on percussion was natural. There were no *râles* audible over any part of the chest, but there was an occasional short cough, unattended with any expectoration.

Although the puffy and swollen condition of the soft parts rendered it a difficult matter to explore the deeper veins of the neck by the finger, yet by exerting a moderate amount of pressure over the course of the right subclavian and internal jugular veins, at a short distance above the clavicle, the "*purring tremor*" was plainly recognized; over the corresponding vessels at the left side of the neck this peculiar physical sign was absent.

April 23d.—The breathing appeared somewhat relieved by venesection to six

ounces, practised the preceding day: the face was rather less congested: she had no sleep whatever; there was continued orthopnea: the physical signs remained as before.

26th.—She had been repeatedly leeches upon the upper part of the chest, since the date of the previous report, and each time with decided relief to her breathing; the capillary congestion had somewhat lessened; the sub-conjunctival œdema had disappeared; the physical signs were unaltered; there was still absolute orthopnea; the stomach now, for the first time, became irritable, it rejected all kinds of aliment, yet there was no epigastric heat or tenderness.

29th.—Her manner had suddenly changed; she was less intelligent; her answers were slow and stupid; her stomach was still irritable; she had dozed a good deal during the night, and raved incessantly. Late in the day she was seized with general convulsions; to the attendants it appeared to be an ordinary epileptic paroxysm; out of this she never rallied, and her death took place at nine o'clock in the evening.

Post-mortem examination twelve hours after death.—*Head*: Scalp much congested and œdematous; veins of dura mater turgid; a considerable amount of serous effusion (but without any lymph) in the arachnoid sac. The veins of the cerebral hemispheres, especially in the neighborhood of the superior longitudinal sinus, much congested. Large quantities of serum in the subarachnoid spaces and in the ventricles; the cerebral substance healthy, disclosing, however, when incised, a profusion of bloody dots.

Chest and Neck.—The subcutaneous areolar tissue of the neck, the chest, and the upper extremities, anasarca; *the lower extremities perfectly free from the slightest œdema*; extreme congestion of the jugular and other veins of the neck, superficial as well as deep. The right internal jugular enlarged, so as almost to equal the small intestine in point of size, and distended with black blood. The left internal jugular, the subclavian, and the innominate veins, filled with black, firm, non-adherent coagula.

The substance of the lungs remarkably healthy; the mucous membrane lining the trachea and the bronchial tubes of both lungs very vascular, and of a vermilion hue; a small quantity of tenacious, gelatinous-looking mucus in the trachea and larger bronchi.

Heart.—A dessert-spoonful of serum in the cavity of the pericardium; heart absolutely healthy; all its chambers, its valves, and its muscular structure, perfectly normal.

Aorta.—Aorta enormously dilated; the entire arch of the aorta, and about two inches of the descending or thoracic aorta were comprised in this dilatation, which formed a vast pouch of an oblong shape, presenting at the exterior all the appearance of a huge aneurismal tumor. This pouch filled up the mediastinum, and projected considerably, to the right of the sternum, into the right pleura, where it encroached extensively upon the root of the right lung, and upon the superior intercostal spaces. From the upper part of this pouch, the innominate, the left carotid, and the left subclavian arteries, arose; to the surface of this pouch the left vena innominate and the superior vena cava adhered. The left vena innominate, crossing from left to right, was so completely identified with the diseased aorta that all attempts to separate these vessels by dissection were fruitless. Along the line of contact the coats of these vessels were so perfectly amalgamated that they constituted conjointly but a single flimsy partition between the venous and the arterial blood. The right vena innominate and the descending cava were similarly united to the right side of the aortic pouch, and here a free communication had actually been established between the aorta and the vena cava, the intermediate partition having given way.

The left vena innominate, and the superior cava *had undergone a considerable diminution in calibre at those parts of their course where they adhered to the aorta*, but lower down, where the cava receives the vena azygos, and debouches on the right auricle, it regained its ordinary dimensions; thus two fingers readily entered it from the cavity of the auricle; one finger traversed it with difficulty higher up at its amalgamation with the aorta, whilst still higher up, as already described in the neck, the great tributaries of the superior cava were found enormously dilated.

On cutting into the aneurismal pouch, it was found to be formed by a true dilatation of the aorta, all the coats of that vessel being perfect, although greatly diseased and thickly studded with atheromatous deposits. A large, soft, black coagulum filled this enormous pouch: on slitting up the pouch the coagulum readily turned out, there were no *laminated* coagula whatever. The orifice of communication with the vena cava came readily into view on the removal of the coagulum; it was oval in shape, with sharp, irregular edges, very unlike what might have been expected had the aperture been one of long standing. In size and shape it resembled the button-hole of a shirt; there was, however, a delicate frenum crossing it about the centre.*

ART. 45.—*Occlusion (probable) of a Cerebral Artery by a Detached Cardiac Vegetation.* By (1) Prof. SIMPSON, of Edinburgh, and (2) Mr. SHAW, Surgeon to the Middlesex Hospital.

(1) *Edinburgh Monthly Journal*, March, 1854; (2) *Transactions of the Pathological Society*, vol. iv, 1853.

Professor Simpson's case was related before the Medico-Chirurgical Society of Edinburgh; Mr. Shaw's before the Pathological Society of London. The morbid specimens of the latter cases were of course exhibited to the fellows, and the subjoined comments refer to them primarily.

1. *Professor Simpson's case.*—The patient, who was near her confinement, on coming home felt indisposed, and called her servant to send for her husband. Complete paralysis of the right leg, arm, face, &c., supervened. The patient was quite intelligent though she could not speak. There were no symptoms of cerebral pressure, nor was the urine albuminous. A loud valvular sound, however, was heard over the heart, and it was ascertained that she had suffered from rheumatism about a year before. A symptom was well marked in this case, to which attention had been drawn by Mr. Tufnell, viz., strong pulsation of the vessel on the cardiac side of the occlusion. On examining the two carotids, the left presented an extraordinary impulse.

2. *Mr. Shaw's cases.*—In one case the right middle cerebral artery was seen blocked up at the point of its division into its branches, by a fibrinous body, dense and wart-like, resembling the deposits so often met with on the valves of the left side of the heart. The mitral valves of the patient from whom the artery was taken, were also shown, on the free edges of which several of the same kind of deposits were formed, some of them being attached so slightly, that they were easily broken off. The middle cerebral artery was much swollen at the part where the body was impacted within it: but its coats, and those of the other vessels of the brain, were perfectly sound. The body was irregular in shape, with a smooth glistening surface, and about the size of a grain of wheat: it did not adhere to the coats; a thin, worm-like coagulum occupied an inch and a half of the proximal side of the vessel. On examining with the microscope a thin section of the body, and comparing it with a similar section of one of the warty excrescences from the mitral valve, the structure appeared identical in both. In the right side of the centrum ovale, over the anterior part of the lateral ventricle, was an oval portion of the brain, about the size of a small nut, where the color was visibly duller than in the adjacent parts; and the tissue was so much softened, that when a section was made, the part sank and left a well-marked pit or depression. The specimens were taken from a female, aged fifty-one, who, when under treatment for fistula in ano, was attacked with hemiplegia, which came on slowly, and without the loss of consciousness; and she died in about twenty-four hours from the commencement of the attack. Mr. Shaw also exhibited a portion of heart, removed from a patient of his colleague, Dr. Crawford, in which the mitral valves were seen thickly fringed with warty deposits, some of them attached by very fine pedicles to their base. In this case, the right middle cerebral artery was completely blocked up by a little

* I have found but three cases on record similar to the above. The first of these was published anonymously in *The Lancet*, 1832-33, vol. ii. p. 666. The second, related by Dr. Law, appeared in the twenty-first volume of the *Dublin Journal of Medical Science*, first series, p. 444. The third was published by Dr. J. Reid in the *Edinburgh Medical and Surgical Journal*, 1849. The first and third have been quoted at length by Mr. Thurnam. Dr. Law's case will well repay perusal.

yellowish body, of the size of a grain of wheat, attached to the walls of the vessel by adhesions which were easily broken down; the coats of the artery, and those of the other vessels of the brain, were quite sound. As in the other case, the patient died with symptoms of softening of the brain; and in the anterior part of the right hemisphere was a portion of the brain, of the size of a large walnut, so much softened, that it could be washed away under a stream of water.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 46.—*On the Use of Ipecacuanha in certain Stomach Disorders.* By Dr. BUDD, Physician to King's College Hospital.

(*Medical Times and Gazette*, April 15, 1854.)

Ipecacuanha increases the secretions of the stomach in a greater degree, probably, than any other medicine we possess. It increases, as is well known, the secretion of the skin, and the secretion of the mucous membrane of the air-tubes; but it increases in much greater degree, the secretion of the mucous membrane of the stomach, to which it is directly applied. An emetic dose of ipecacuanha causes a copious secretion of mucus and of gastric acid, which is rejected by vomiting. Doses too small to excite vomiting or nausea increase the secretion of the gastric juice, and in so doing render digestion quicker and stronger. Its right application, therefore, is where digestion is slow, or where, through slow and feeble digestion, nettlerash or other secondary disorders are bred.

Small doses of ipecacuanha were first recommended as a remedy in indigestion in a tract published in 1785, by a French naturalist, M. Daubenton, well known from the aid he afforded Buffon in the production of his splendid work on natural history. Daubenton was educated for medicine, but left the practice of it for his favorite study of natural history. In the tract in which he recommends small doses of ipecacuanha in indigestion, he says, "I have repeatedly experienced beneficial effects from it in my own person that surpassed my expectations, and I have prescribed it to many others, with whom it has had similar success. I consider it, therefore, a duty to publish the observations on the utility of this simple remedy, for the benefit of those persons who have delicate stomachs, and as particularly useful in that form of indigestion which is so frequently found to attend the turn of life."

Daubenton is careful in stating that the cases in which ipecacuanha is useful are where digestion is slow,—where the food lies heavy on the stomach, and there is an inability for mental or bodily exertion for some time after meals,—a kind of disorder which is, he states, especially common in men of middle age, or beyond it, who lead sedentary lives.

He believed that ipecacuanha owes its efficacy in such cases to its exciting peristaltic action in the stomach, and imparting an energy to its glands.

He recommends that it should be given in the morning fasting, and in quantity sufficient to occasion a slight feeling of vermiculating motion in the stomach, but without causing any sensation of pain or nausea. The quantity requisite to produce this effect varies, he says, in different persons from a quarter of a grain to two grains. He advises, therefore, that very small doses be given at first, which may be gradually increased till a sensible effect is produced.

In the beginning of this century an English translation of Daubenton's tract was published by Dr. H. P. Buchan, and rapidly sold.

In the preface to this translation, Dr. Buchan says: "The translator of this little tract can truly declare, that since he became acquainted with the information contained in it, his practice in the complaints here enumerated have been more successful and satisfactory than it was previously, and his sole motive for publishing the translation, which was originally made for his own private use, is to extend the knowledge of what he conceives to be a practical improvement in the art of medicine."

The medicine in this application being thus introduced to the profession in this country, was much employed for a time, and then fell into disuse, in consequence, the author believes, of its having been employed indiscriminately in

various kinds of indigestion, and often, therefore, in kinds to which it is not suited, and which it would tend to aggravate rather than remedy.

It is clearly impossible that any medicine having a definite mode of action—whether it be to increase secretion or to restrain it—can be used successfully in stomach disorders, unless the various kinds of stomach disorder be distinguished, and the medicine be given only in that kind, or in those kinds, to which it is suited.

Here, as in other departments of medicine, we must rightly distinguish kindred disorders before we can learn the right use and the power of remedies.

The author has used ipecacuanha as a remedy for indigestion for several years, and he believes that there is no other medicine we know of so effectual in removing the uneasiness and sense of oppression after meals, and the various other evils that result from slow digestion.

Small doses of rhubarb, ginger, and pepper, have a similar kind of action, and may be given singly or together for the same purpose. The author generally prescribes ipecacuanha, from half a grain to a grain, in a pill, with three or four grains of rhubarb. With many a favorite remedy for the discomfort resulting from slow digestion is a grain of cayenne pepper, with three or four grains of rhubarb. The best time for giving medicines for the purpose in question is just before dinner, and before any other meal after which a sense of oppression is usually felt.

ART. 47.—On *Pyrosis*. By Dr. BUDD.

(*Medical Times and Gazette*, March 18, 1854.)

Pyrosis, considered with reference to its exciting causes, is of two kinds:—

1. That which has been termed by some writers *symptomatic* pyrosis, which is brought on (without any peculiarity in diet) by pregnancy, or some other condition that disturbs the functions of the stomach.

2. That which has been termed, in contradistinction to the former, *idiopathic* pyrosis, which prevails chiefly among the agricultural poor in rural districts, and which seems, in most cases, to be mainly owing to defective diet.

Many conditions conspire to render the disorder much more frequent in women than in men. Women are much more frequently in states of debility from the nature of their constitutions and from their having in suckling and in excessive or unnatural uterine discharges, causes of exhaustion from which men are exempt; they have also more excitable nervous systems, and, in consequence, the functions of the stomach in them are more apt to be deranged by mental influences and by disease in other parts of the body; and, among the lower classes, they have generally a less nutritious diet, since the men, in order to support their more laborious work, take or have accorded to them a larger quantity of animal food and of malt liquors than is consumed by the weaker sex.

In the treatment of water-brash, our first endeavor should, of course, be to remove the conditions that may seem to have brought it on or to maintain it.

If the disorder should seem so be caused mainly by a diet not sufficiently nutritious, or consisting too much of farinaceous substances, the most effectual remedy will be a wholesome nourishing diet, containing a proper quantity of animal food *in its most digestible form*. Little permanent benefit can, indeed, be expected from medicine unless the diet is improved.

If the disorder should seem to have been induced, or to be kept up, wholly or in part, by fatigue, it is very essential that the patient should rest; if by constipation, that this condition should be removed by purgatives, such as aloes or colocynth, that do not offend the stomach.

After these points have been attended to, much further good may be done by medicines.

The medicines that have been found most useful in pyrosis are—

1st. Medicines which have an astringent action on the coats of the stomach. Among these may be classed bismuth, lime-water, and the vegetable astringents—kino, catechu, krameria, logwood.

2d. Sedatives, especially opium and the salts of morphia, which probably also tend to restrain undue secretion by the mucous membrane, but which are chiefly of use in allaying the gastralgia that attends pyrosis.

Medicines from the two classes may often be combined with advantage. Five grains of bismuth, with a twelfth of a grain of the muriate of morphia, or five grains of the compound kino powder, or an efficient dose of catechu, krameria, or logwood, with opium, may be given two or three times a day.

3d. Some other medicines have obtained repute in pyrosis which cannot be classed with the preceding. They have most of them an astringent action on the coats of the stomach, but act, directly or indirectly, on the nervous system as well.

The chief of these are, nitrate of silver, which may be given in pills, in doses of half a grain, three times a day; nux vomica, which may also be given in pill, in the dose of from three to five grains, three times a day; quinia; and the mineral acids.

Some of the medicines mentioned have been popular remedies for pyrosis in districts in which the malady has prevailed.

It is stated that nux vomica is a popular remedy among the Laplanders, to whom it was recommended by Linnæus, and that lime-water was some years ago a popular remedy among the rural inhabitants of North Wales.

4th. The disorder is often connected with anæmia, and steel is of great service both in removing it and in preventing its recurrence.

The medicines of which the author has had most experience in disorders of this class, and which are probably as efficacious as any, are bismuth with morphia; krameria, and logwood, with opium; and steel.

ART. 48.—*A Case of Chronic Functional Vomiting cured by Capsules of Sulphuric Ether.* By Dr. GALANTE, of Arpino.

(*Gazette Hebdomadaire*, Dec. 23, 1853; and *Il Feliatre sebezio*, vol. xlv., p. 145.)

The particulars of this case are not very copious, but from what is related it appears that the patient was a lady, aged 28, whose menses had been suppressed nine years previously from fright. In spite of treatment the uterine functions were not re-established for six years, and then only scantily and irregularly, the patient in the mean time becoming very dyspeptic and hysterical. At the commencement of 1853, she began to suffer pain in the epigastrium and to vomit whenever she attempted to take food; and, with only partial truces at the menstrual periods, these vomitings continued, in spite of every effort to arrest them, until the end of May. On the 28th of this month she began to take the ether capsules—*perles d'ether* du Dr. Clertan de Dijon—and a quarter of an hour after the first she took a cupful of chicken broth. *For the first time during several months she did not vomit.* The report then goes on to state that after six of these *perles* had been taken, the vomiting had definitively ceased, and that a month later the patient was quite well, her convalescence having been facilitated by small doses of valerianate of zinc.

ART. 49.—*Cases of Sarcina Ventriculi.* By (1) Dr. BUDD, Physician to King's College Hospital; and (2) Dr. BARNES.

(1) *Medical Times and Gazette*, Feb. 11, 1854; and (2) *The Lancet*, Jan. 7, 1854.

1. *Dr. Budd's cases.*—In a clinical lecture on the subject, Dr. Budd relates three cases occurring in his own practice. With regard to the causes of the disorder, he considers "that the secretions of the stomach, which seem to be usually more abundant than natural, undergo or excite in the food in the stomach, and after they have been thrown up from it, a fermentation which is attended with the evolution of carbonic acid, and with the production of torulæ and sarcinæ, and which leads to the formation of acetic acid. The production of the disorder seems to require that there shall be some condition which prevents the stomach from completely or readily emptying itself."

CASE 1.—James Lane, æt. 44, a laborer, was admitted into King's College Hospital, on the 11th of December, 1850. As in the two cases related by Mr. Busk, his stomach disorder seemed to have resulted from an injury. He said that he had led a temperate life in the country, and that his health was good until two years before, when, while he was at work on a railroad, a large quan-

tity of earth fell on him, throwing him with violence across some pieces of thick board which were lying immediately in front of him. He was completely buried in the earth for half an hour, at the end of which he was dug out insensible, and was found to have received some severe injuries of the head and face. Ever since that time he has had palpitation and shortness of breath on exertion, so that he has been unable to work hard; and his stomach has been disordered in the following way. As soon as he recovered from the immediate shock of the injury, he began to suffer pain at the stomach. The pain continued, and from that time he had occasional vomiting; but the vomiting did not trouble him much until the last four months, during which it had occurred, on an average, two or three times in twenty-four hours. The vomiting occurred most frequently in the evening, or at night after he had gone to bed.

On his admission to the hospital, on the 11th of December, he was thin, and much out of condition. His appetite was good, but a few minutes after every meal he had pain and a sense of burning at the pit of the stomach, soon followed by much flatulence and distension of the stomach, which continued until he vomited, when the stomach got slack, and the heartburn ceased. The matter vomited varied in quantity from a teacupful to a quart or more. It was always sour, and, after it was vomited, fermented and frothed like wort. When it had stood some hours in the vessel in which it was received, it consisted of a clear liquid, which had a brownish sediment, and was covered by a light-brownish frothy matter that looked and smelt like yeast. He stated that the stomach was usually cleared by four or five efforts of vomiting; that a clear liquid like water came first, a thicker and brownish matter last.

On microscopic examination, the brownish matter was found to contain great numbers of the yeast-fungus and sarcinæ.

Lane complained of pain at the right of the epigastrium, and was unable to lie on the right side, as this posture increased the pain and uneasiness at the stomach, and the flatulence. On account of this pain, several blisters had been applied between the right mamma and the epigastrium. At a small spot under the cartilage of the tenth rib on the right side, there was constant tenderness, but no tumor could be felt there. The stomach appeared to be somewhat enlarged, and the bowels were habitually costive. It seemed probable that the diaphragm had been injured, and that the movements of the stomach were impeded by unnatural adhesions of the stomach near its pyloric end.

Lane was quite free from fever, but his nights were often restless from the uneasiness and distension of the stomach, which were usually most troublesome in the evening and at night.

He was kept on a diet of lean meat and bread, and was ordered to take two minims of creosote in pills three times a day. Under this treatment the symptoms abated; and on the 15th of January, five weeks after he came under our notice, he left the hospital, much improved in condition, but still suffering from pain at the epigastrium, flatulence, and the occasional vomiting or eructation of a sour fermenting liquid.

Dr. Budd sent the liquid vomited on two different occasions to the laboratory of the college, and the result of the analysis was that the first specimen contained acetic acid and a trace of hydrochloric acid, but no alcohol; the second specimen, acetic acid, but neither hydrochloric acid nor alcohol.

CASE 2.—Burraston, æt. 40, a pot cleaner at a public-house, was admitted into King's College Hospital, on the 14th of December, 1850. He was a confirmed sot, and in years gone by he had suffered from syphilis and gonorrhœa; but, with the exception of these diseases, his health seems to have been good, considering his habits, until about twelve months before his admission to the hospital, when he began to have occasional sickness, especially after drinking beer or spirits.

Six months before his admission the vomiting became more frequent; and since that time, he had sometimes vomited twice or thrice in a day. The appetite was always very good. He suffered no positive pain in the stomach, but soon after meals had a burning heat there, and the stomach became blown out with wind. The uneasy sensations continued until vomiting occurred, when they ceased, to be excited again, in greater or less degree, after the next meal.

The matter vomited often amounted to a pint and a half, and sometimes to two or three pints. It usually consisted of a sour clear liquid, having a light-brownish, stringy sediment. It fermented, and after a time became covered with a brownish froth, like that on the top of fermenting wort. The brown matter, both in the sediment and at the surface of the liquid, contained abundance of *torulæ* and *sarcinæ*.

No tumor could be felt at the epigastrium, but the bowels were habitually costive, and the stomach appeared to be larger than natural.

The long duration of the malady, the habitual constipation, and the apparent enlargement of the stomach, led me to infer that the pyloric orifice of the stomach was somewhat strictured; and it seems probable, from there being no tumor and no positive pain—from there being, in fact, no indications of cancer of the stomach, or of simple ulcer—that the cause of the stricture was that induration of the cellular tissue in the pyloric ring which spirit-drinking causes.

Burraston remained in the hospital till the 29th of March, between three and four months. During all that time he was quite free from fever; the pulse usually ranging from 56 to 80 a minute. The appetite was constantly good; sometimes more craving than natural. The condition of the stomach varied according to the remedies employed. Sometimes, although there was more or less flatulent distension and sense of burning in the stomach after meals, there was no vomiting for many days together. At other times, vomiting occurred two or three times a day. The distension and uneasiness of the stomach were usually greater, and the vomiting was more frequent in the evening and at night, than in earlier parts of the day. The matter vomited was always the same kind of glairy fluid, and was almost always acid and fermenting. On two or three occasions, however, the fluid was alkaline; and it was observed, that when such was the case, no *sarcinæ* could be found in it. The same fact was noticed in a man who was some months before in the hospital under the care of Dr. Todd.

The sleep seemed to depend mainly on the state of the stomach; being sound when the stomach was empty, and disturbed and broken when the stomach was distended and uneasy. The urine was always clear, and usually very acid. The quantity of it passed daily varied from a pint and a half to three pints and a half in twenty-four hours, and the specific gravity ranged from 1022 to 1011. The larger quantities within this range, and the lower specific gravities being by far the more common condition. The urine contained no albumen, but often exhibited under the microscope crystals of oxalate of lime. It was frequently noticed that the saliva had an acid reaction.

Creasote, nitro-muriatic acid, *nux vomica* were tried without success, as were also emetics—the object in giving the latter remedies being to empty the stomach completely, and so get rid of any fermenting residuum. Happening to learn that another patient had been much benefited by common salt, Dr. Budd next gave a trial to this substance, and from the 10th of March to the 19th, the patient took two teaspoonfuls, and after the 19th two tablespoonfuls in half a pint of water, twice a day. Together with the salt he occasionally took, as before, compound aloetic pills, to regulate the bowels.

This remedy proved much more successful than any previously tried. After he had taken the large doses of salt, he had occasionally a sense of burning in the stomach, and more or less of distension; but did not vomit, and had very little nausea; and on the 29th of March, three weeks after the salt was ordered, he left the hospital much relieved.

On the 8th of October of the same year, the nurse at the hospital under whose charge he was, showed me a letter she had just received from him, in which he stated, that ever since he left the hospital he had continued to take the salt, and that for some time he had also taken habitually *cascarilla* tea. His stomach disorder, he stated, was very much less troublesome than when he was in the hospital, and he attributed the amendment mainly to the salt.

CASE 3.—“In the autumn of 1851,” writes Dr. Budd, “I was consulted at my own house by a man who had suffered from this kind of stomach-disorder for ten years, and who had derived great relief from enormous doses of carbonate (bicarbonate?) of soda. He was a carpenter, 40 years of age, who lived in the

country, and had always, as he stated, been of temperate habits. The stomach disorder came on without assignable cause, and slowly but gradually increased. He told me that four years before I saw him a chemist had recommended him to take carbonate of soda, and that he soon got to take enormous quantities of it; for months together as much as three-quarters of a pound a week—on his bread, and in his tea and beer—and sometimes for a short time, as much as a pound a week. For the last four months his allowance had been a quarter of a pound a week, and he had found that a larger quantity of it gave him pain in the back. He stated that at first he derived great benefit from these large doses of soda, and that they enabled him to resume his work, which he had been obliged to discontinue before. His strength, however, had gradually declined, and when I saw him he was much emaciated, and had the look of a man with malignant disease. No tumor could be felt in the region of the stomach, but the stomach was much distended; the bowels were habitually very costive; the cutaneous veins of the belly were large; vomiting occurred frequently, sometimes as often as two or three times a day, and several times within the preceding two years he had vomited matter like coffee-grounds. His symptoms differed from those of the patients of whom I have before spoken, in the circumstance, that solid food gave him pain in the stomach, so that he had been induced to refrain almost entirely from its use.

“It seemed to me, that at the time I saw him there was ulceration of the stomach and obstruction at the pyloric orifice, the result, very probably of slowly-growing malignant disease.

“I prescribed at first large doses of salt, but no benefit resulted from them; and I subsequently ordered, I know not with what effect, bismuth, magnesia, and opium. A week or two ago I heard of his death, which took place not long since—towards the end of 1853.”

2. *Dr. Barnes's case.*—Commenting upon this case, and upon analogous cases, Dr. Barnes is disposed to regard the sarcina as connected with some organic disease, but as yet he does not venture to express an opinion upon the nature of this disease. The case itself is of great interest.

CASE.—“A lady of about sixty years of age had been addicted for many years to the free use of opium in different forms. For a long time together she consumed daily half an ounce of Battley's solution, and probably often more. She was stout, and of adipose disposition, but accustomed to exercise in the open air. Her anxiety for fresh air sometimes amounted to an uncontrollable longing; her appetite was usually good; her diet consisted generally of well-seasoned dishes—at night, of bread and milk. She suffered at intervals from ‘bilious attacks,’ which were relieved by vomiting. Of late years she had had one or two attacks in the year of an alarming character: spasms, attended by great pain in the stomach, prostration, numbness, and approach to paralysis of the right side of the body. At these times the power of speech was commonly impaired. These attacks—so severe as apparently to threaten a speedy fatal termination—gave way under the use of large doses of opium and ether. I have ordered her sometimes three grains of morphia at a dose. This was usually followed by warmth of surface, remission of pain, a rising of the pulse, a general sensation of improvement, and sleep. After this action the symptoms would abate, and under bitter stimulating tonics she would recover her usual strength. In the autumn of 1852 this lady went to Jersey, where she had a severe illness, marked by pain in the right side, for which leeches and blisters were resorted to. The cause of her illness was represented to be inflammation of the liver. My acquaintance with her previous history, and subsequent opportunities, lead me to doubt the correctness of this view of the case. At any rate this illness would appear to have been much more protracted and grave than any she had previously suffered. It left her weak, with her appetite impaired; she never recovered her ordinary health.

“Throughout March, 1853, she underwent excessive anxiety and fatigue, owing to the illness of her husband, which terminated fatally. On the 8th of April she complained of spasms, pain in the stomach, and loss of appetite.

These symptoms increased, and on the 14th the cramps and pain were intensely aggravated, and violent vomiting set in, with great mental depression. Hydrocyanic acid, ice, soda water, blisters to the pit of the stomach, dressed with morphia had no alleviating effect. No sleep; pulse not quick, but full, tongue white, furred; bowels not costive; urine high-colored. The vomited matter was at first light-colored containing milk, and such similar bland articles of food as she could still take. It gradually became greener, and no food but an occasional spoonful of beef-tea could be swallowed. When the vomited matter was allowed to stand, a green matter subsided forming a thick stratum. On examination this green matter was found to consist almost entirely of sarcinae. Sulphite of soda was now administered in scruple doses every four hours. After thirty-six hours' use, the vomiting had abated, the last vomitings exhibiting less of the green sediment. The pain remained of the most agonizing intensity. The expression of suffering exhibited in the countenance was afflicting to witness. She begged for chloroform as an escape from her torture. The quantity of sulphite was diminished, and a mixture of infusion of quassia, bi-carbonate of potassa, and tincture of orange was added. The symptoms remitted somewhat, but the prostration increased. Breathing was distressing; she could not fill the chest, but respiration was heard in every part; the pulse was intermitting, especially after any exertion, such as sitting up in bed. Pressure below right ribs gave pain. There was no swelling of the feet or abdomen. A blister was applied to the right hypochondrium; ten grains of calomel, followed by an enema. On the 18th Dr. Hassall saw the case with me. The symptoms were as detailed. The treatment was persisted in. On the 19th the quassia mixture seemed to compose and give relief, so much so, that it was supposed by the patient and her attendants to contain a narcotic. The appetite was somewhat improved: she took a little beef-tea. Some urine passed, and the bowels acted freely. On the 20th the distress of breathing increased; the anxiety of countenance and of manner returned. She begged for chloroform with increasing earnestness. This was administered occasionally, and was the only means by which even a temporary mitigation of suffering could be procured. The remittent character of the pulse increased, jaundice appeared; the tongue was not furred, but glazed. The treatment was continued. On the 21st she was much worse; she had vomited several times in the night; the green matter was again visible; tympanites and some effusion in the abdomen. On the 22d, at eight P.M., she sank. Her dissolution was preceded by a return of copious vomiting. The suffering at the stomach, and the distress of breathing and the jaundice gradually became more intense.

Autopsy on the 24th—The examination was limited to the stomach, liver, and intestines. A considerable layer of fat in the walls of the abdomen, the omentum was also very fat. The stomach was full of turbid green matter similar to that which had been so abundantly vomited just before death, some of the same fluid was also found in the duodenum. The mucous membrane of the stomach exhibited a punctate injection, which was a little more marked towards the pylorus. The pylorus was not contracted to a sensible degree; the valvular ridge although it felt slightly thicker than natural, was composed of nothing but normal tissues—muscular fibres and mucous membrane. The utmost that could be said was, that there was slight hypertrophy of the structures forming the valve. There was some clear fluid in the peritoneum. The peritoneal covering of the liver was free from any mark of inflammation or adhesions, it was not enlarged or contracted, the color was pale, the aspect like that of a nutmeg; an incised surface presented a similar appearance; the texture was soft and lacerable. On a microscopic examination, scarcely a vestige of liver that could be supposed to be in a condition to fulfil its normal function could be found. It might be said with truth, that the hepatic cells in every part were full of oil. It is undoubtedly a matter for regret that circumstances prevented a more extended examination, embracing the heart, lungs, and kidneys. A careful investigation of the chest during life leads me to believe that the lungs were healthy. The urine had given no indication of granular disease of the kidney. It is not, however, improbable that there was some amount of fatty degeneration of the heart.

ART. 50.—*Case of Enormously Dilated Stomach.* By Dr. MILLER.*(Transactions of the Pathological Society, vol. iv., 1853.)*

The points of interest in this case appear to be the great difficulty in making a correct diagnosis of the nature of the abdominal tumor, and the complete absence of abdominal pain, as in cases generally of mechanical obstruction of the bowels. The cessation of vomiting probably only began on the occurrence of paralysis of the muscular coats of the stomach.

CASE.—Mrs. M—, æt. 48, a lady of nervous temperament, and the mother of several children, sent for me early in the morning of the 7th of March. She had been seized with vomiting, which had continued the whole of the previous night. The fluid ejected amounted to as much as five wash-hand basinsful. She was faint and weak, the pulse not exceeding forty in a minute, and intermitting. Beyond this and a feeble heart's action there was no other symptom. The abdomen was lax and soft, without pain upon pressure. She had been recently under Dr. Moore's care, being troubled with piles and prolapsus of the rectum. She had been getting thin lately, and her daughter had observed a slight increase in the size of her abdomen. I relieved the bowels by an enema, and applied other remedies. On the following day Dr. Moore saw her with me. The abdomen on examination was found sunk and depressed, little gurgling was heard in the region of the stomach, and some unusual hardness which had been observed the day previous, was felt in the right hypochondriac region. Vomiting had somewhat subsided. The tongue was dry. The bowels were again relieved of some lumpy bilious fæces by means of an injection, and remedies of a palliative nature were continued. On the following day vomiting had subsided, but the patient appeared more distressed and ill.

On the 10th, four days from the seizure, the severe vomiting ceased; we discovered a considerable swelling of the whole abdomen, commencing about the left iliac region, except that part on the right side of a line drawn from the ensiform cartilage, to right superior spinal process of ilium. The swelling was tympanitic. The pulse increased in frequency, and became more regular.

On the 11th, the tumor, instead of being tympanitic, was dull on percussion, and fluctuated; the patient experienced an inclination to vomit, on pressure being made over it.

On the three following days she continued in the same state, the abdominal tumor being large and fluctuating; the general symptoms were those of exhaustion, but with complete absence of pain, sickness, or natural action of the bowels. On the 14th Dr. Watson saw her, who expressing an opinion as to the difficulty of forming a correct diagnosis of the case, believed it to be one of preternaturally distended stomach containing fluid, and that there probably existed some mechanical obstruction to the bowels. On the following day she became delirious at times without any relief of the symptoms generally. On the 16th, she was seen by Dr. Bright, who did not come to the same conclusion as to the nature of the case as Dr. Watson. On the 17th she expired.

Mr. Humby examined the body on the following day. The viscera of the abdomen were found healthy, but the stomach, distended to an enormous size, was found occupying the whole side of the abdominal tumor. In many places the muscular fibres of the organ had completely given way, approximating its mucous and peritoneal coats. The cavity of the stomach was capable of holding 10½ pints of fluid. The small intestines were contracted to a very small size, and were completely pushed down into the cavity of the pelvis. No malignant disease in the abdomen whatever. In a portion of the fluid rejected from the stomach, Dr. Miller found abundant specimens of *sarcina ventriculi*.

ART. 51.—*On the Use of Chloroform in Cases of Spasmodic Obstruction of the Bowels.* By Dr. CAIN.*(Philadelphia Medical Examiner, Nov. 1853; Southern Medical and Surgical Journal.)*

"For more than two years," writes Dr. Cain, "I have used chloroform, as a more powerful agent than opium and its preparations, and as more certain in relaxing the muscular system in these cases. The chloroform inhaled in greater

or less quantity, soon produces a greater or less degree of resolution, and taking advantage of the relaxation thus effected, I give enemata, either stimulating, mucilaginous, or oily, which in a short time bring away fecal matter. The inhalation may be repeated as often as in the judgment of the physician the case demands.

"Chloroform possesses the immense advantage over opium, of relieving effectually and promptly the pain, and in not leaving the bowels in a constricted state, the sedative effect soon passing off.

"Seven cases have thus been treated by me with highly satisfactory results. In one case only have I experienced any difficulty in inducing the requisite degree of relaxation of the bowels. The subject of this case was very slightly susceptible to its influence; but the pain was completely relieved by frequent inhalations, and the obstruction gradually overcome."

ART. 52.—Observations on the Use of Opium as a Substitute for Purgatives in Severe Cases of Obstruction of the Bowels. By G. EVANS, M.D., of Carlisle.

(*Edinburgh Monthly Journal*, Nov. 1853.)

"Notwithstanding the frequency, alarming character, and even fatal termination of those cases which belong to that class of diseases of which colic is the type, and where there are symptoms clearly indicating a serious obstruction to the natural passage of the contents of the bowel, there is not to be found in works on the practice of medicine a system of treatment specifically based upon physiological indications. If we except the treatment of idiopathic enteritis, we find that authors sanction the purgative plan of treatment, including the exhibition of croton oil and other powerful cathartics. They, however, admit that it is absolutely impossible to determine with any degree of certainty, the existence or non-existence of a mechanical body; its precise character, and whether removable or not. Dr. Watson and Dr. Copland wisely denounce in strong terms the exhibition of purgatives in obstructed bowel connected with idiopathic enteritis; they, however, admit that in colic, inflammation may be present without any indication of its existence. Dr. Copland says that 'the pulse is often a most fallacious guide in every form of colic and ileus; and that the diagnosis between colic and inflammation cannot be stated with precision, for there is no symptom which can be relied upon, for inflammation with its consequences, may exist, and yet the abdomen may not be painful on pressure;' he even enumerates among the aids to a correct diagnosis, the operation of the remedies administered. Dr. Watson would discontinue the exhibition of purgatives in colic after a fair trial, from the conviction that the mechanical obstacle is such that it cannot be overcome. Alluding to the purgative plan of treatment, he says:—'Common sense and common humanity answer, you must stop it the instant you are convinced that there is a mechanical obstacle which cannot be overcome; to persist in the use of drastic purgatives after that conviction is to inflict wanton and needless torture upon the patient.' The reader who may be inclined to peruse what has been written on colic and ileus will not be surprised when I state that the pathology and treatment are most indefinite, unsatisfactory, and uncertain. It would seem from the purgative treatment sanctioned, that the pathological phenomenon of spasmodic intestinal stricture has been entirely overlooked, and that the primary indication of treatment is the removal of constipation, and that evidently without any special reference either to the causes giving rise to it or to the altered physiological conditions leading to spasmodic constriction of the intestine.

"However, I maintain that the primary and most important indication to be pursued is, the alleviation of spasmodic constriction, and that this is scientific, and in accordance with physiological indications, and in no case, however ambiguous, productive of mischief, nor even distress, to the patient. For supposing a removable mechanical body existed, which produced local irritation of the nervous fibres of a given portion of the intestine, and consequently spasmodic contraction of its muscular coat, it is manifestly clear that it can only be removed by the equable and consentaneous action of the intestine, and that after the alleviation of spasmodic constriction.

"The secondary and comparatively least important indication of treatment is the removal of constipation; and this it appears scientific to accomplish by the repeated injection of copious lavements, instead of the exhibition of purgatives by the mouth. For should the obstruction arise from causes which can only be discovered by a *post-mortem* examination, such as intussusceptio, internal hernia, or a tumor within the peritoneal cavity, after the partial or complete alleviation of general and local nervous irritation, the forcible injection of copious lavements is the only rational means of relief which the physician can with safety adopt."

ART. 53.—*On Strychnia in Lead Poisoning.* By Dr. SWETT.

(*Dublin Medical Press*, Jan. 4, 1854.)

Dr. Swett has recently recalled the attention of the New York Medical and Surgical Society to a point in practice, which he brought before their notice a year or two ago—the use of strychnia in lead colic, in moderate doses of about the sixteenth part of a grain, three times a day. This has become the settled practice in the New York Hospital. Relief is usually experienced within forty-eight hours; the bowels act, and the disease subsides. He recalled to mind one case, however, which went four days before relief was afforded. He also related the case of a young Englishman, a clerk in a drug store, who was admitted to the hospital a few weeks ago, with what was at first considered as ordinary colic. After a time, however, the following facts were elicited. It appeared that, upon first opening the store in the morning, he had been in the constant habit of taking a glass of soda water, which had remained over night in the lead pipe connected with the fountain. Strychnia was used in this case with great success. Dr. Swett states that, under the use of this drug, he has noticed twitching of the abdominal muscles before a passage from the bowels. He thinks that the disease is consequent upon paralysis of the intestines, and that strychnia, by acting upon the nerves, relieved it. Dr. Bulkley remarks that he has employed the strychnia treatment in colica pictonum, and stated that since the 1st of August there had been five cases of the disease successfully treated with that remedy during his attendance in the New York Hospital. He remarked as a curious fact, that in ordinary paralytic cases the exhibition of strychnia will not affect the bowels. Dr. B. mentions a case which had occurred this summer from drinking soda-water early in the morning, which had become impregnated with the lead poison by standing in the fountain over night; and refers to an obscure case of this disease now under treatment, in which the patient had suffered for seven or eight years. He was relieved by the use of strychnia, and is rapidly improving.

ART. 54.—(1) *A Case of Diarrhœa Adiposa.* By J. A. MARSTON, Esq.; and (2) *Remarks on such Cases,* by C. E. REEVES.

(1. *Glasgow Medical Journal*, Oct., 1853; and 2. *Edin. Medical Journal*, March, 1854.)

1. This case is one of great rarity and of high physiological interest. Mr. Marston apprehends that we may conclude from it "that the pancreas does aid in the digestion of starchy matters, and that it does in some way prepare the fatty ingesta for absorption, and it supplies the gap in the experiments of Bouchardat and Sandras, as to whether the pancreatic or duodenal secretion had the greater share in the digestion of starch; for here the duodenum was apparently quite healthy, and the head of the pancreas alone involved by a malignant disease, differing from the cases before recorded. These he finds to be—a case of diarrhœa adiposa, under Dr. Elliotson, which recovered under the administration of olive oil, a similar case met with by Mr. Lloyd, and three such cases seen by Dr. Bright. The results of *post-mortem* examinations in all the fatal cases, disclosed schirrous disease involving the pancreas and duodenum. "Surely (he observes) this points to the pancreas as discharging a function having direct influence upon the digestion and assimilation of fatty matters."

CASE.—B. R—, æt. 35, laborer, of bilious temperament and middle stature, with a fatty frame, but of a very sallow and emaciated face, came under treat-

ment November, 1852. He complained chiefly of general debility, and a dull pain, accompanied by a creeping sensation, as if of a live animal, along the inferior part of epigastrium to the left side, and round the back to the right hypochondrium. He had also frequent purging of large quantities of a very peculiar fatty-looking substance, but in the intervals his bowels were rather sluggish, when purgatives and mercurials appeared to give some relief, but always augmented the discharge of this fatty matter. Some time back he had suffered from a dull aching pain in the right hypochondrium and back, extending upwards occasionally to the right shoulder. These symptoms had been gradually coming on for ten or twelve months, without apparent cause. The respiration was slow and passive, but no pulmonary disease could be detected. Heart's action was feeble, and impulse scarcely perceptible, yet no organic lesion was present, nor had he experienced dyspnœa or palpitation. There was no tenderness, swelling, or tumor anywhere, except a slight enlargement of the liver. His appetite was good, and he had a great desire for saccharine matters, fat meat, and hydro-carbons generally. Urine was passed in abnormal quantity, pale in color, with very slight reaction on litmus: sp. gr. 1.030: under the microscope it presented a few epithelial scales, and a number of oil-globules; on evaporating a portion and treating it with ether, these globules were dissolved; there was less than a normal amount of urea and lithic acid, and no albumen; but Trommer's test, yeast, and oxide of silver indicated the presence of sugar, and the skin was harsh and dry, though he did not complain at all of these diabetic symptoms, all of which disappeared some time before death. Tongue was slightly furred; gums and inside of lips were pale and flabby; pulse 100, but it varied during treatment from 90 to 120. No cancer, phthisis, or cardiac affection could be traced in any of his family, which had been generally healthy.

The matters passed from the bowels presented a very fatty, tenacious, and peculiarly slimy appearance, deficient in bile, and altogether different from feces; on raising a portion on the point of a knife, it appeared in greasy masses; under the microscope numerous epithelial scales, with mucus, and a substance laden with oil-globules, in every respect similar to fat, were observed: their fatty nature was rendered more evident by their being soluble in ether, and with liq. potassæ forming a semi-opaque gelatinous mass exactly resembling soft soap.

"Now, the questions as to the *origo mali* in this case were—Was the liver affected with chronic inflammation or enlarged by engorgement? Did the fault rest with the stomach, pancreas, or kidneys, or was it a case of malassimilation and degeneration of the tissues generally? I confess it baffled my attempts at diagnosis. He had already been under medical treatment for the last six or eight months, during which he had taken mercury and opium, been leeches, blistered, &c., without marked benefit. I advised that he should abstain from farinaceous and saccharine articles of food. Diaphoretics succeeded, though with difficulty, in producing diaphoresis; the sweat had no acid reaction on litmus. Olive oil, instead of being beneficial, only increased the discharge of fatty matter, and deranged the stomach. Purgatives, mercurials, counter-irritants, with small doses of iodide of potassium and ung. iodiui to region of liver, and a variety of other remedies failing to produce relief, at last all medical treatment was discontinued. His appetite continued good, but the adipose diarrhœa (four or five stools per diem upon the average) continuing, he gradually sank, and died apparently from asthenia, after having been under medical treatment altogether thirteen to fourteen months. Towards the last he was ordered porter and beef tea, with opium, to support his strength and relieve irritability. The urine was examined from time to time, and the quantity of sugar was found gradually to decrease, and ultimately to disappear altogether: but there were still present the oil-globules and fatty epithelium. I fancied that the symptoms were somewhat mitigated by careful abstinence from farinaceous articles of diet.

"In consequence of the patient's residing at a distance of six miles, I could not watch the case so closely as I desired.

"*Post-mortem Examination.*—General appearance of body sallow and emaciated; face, tongue, and lips, flabby and anæmic.

"*Head.*—Brain and its membranes healthy, and no abnormal effusion into ventricles.

“Thorax.—Old pleuritic adhesions on both sides. Lungs gave a healthy cre-pitus, contained no tubercles, but were somewhat doughy and greasy to the feel; pericardium quite healthy; heart dilated and flabby; walls of ventricles collapsing, and becoming perfectly flat, and though not presenting the true fatty degeneration of the sarcal elements, yet there was a deposition of fat intimately amid its muscular fibres.

“Abdomen.—No adhesions of peritoneum; the sub-peritoneal fat was abundant. Liver slightly enlarged, and presented the fatty greasy structure of a phthisical subject. Gall bladder full; ducts quite patent. Kidneys, particularly the left, enlarged and fatty. Duodenum quite healthy, but the head of pancreas appeared to be converted into a hard schirroid tumor, which did not press upon the ductus communis choledochus, as in most of the similar recorded cases, whilst the body and other parts of gland were atrophied, and its duct was found perfectly obliterated and degenerated into an impervious cord. This state of the pancreas was, I presume, the most important of the *post-mortem* appearances. The examination might have been performed more minutely, but for the prejudices of the friends.”

2. Further evidence upon cases of this kind is to be found in a highly-interesting paper by Dr. Reeves, “on Fat in the Excretions,” in the *Edinburgh Journal of March*, 1854.

Dr. Reeves, however, is not disposed to regard the presence of fat in the feces as due to the prevention of the entrance of the pancreatic juice into the intestines, and says that Dr. Bright (who first put forth this opinion) eventually met with several cases in which the spleen was so altered that there could be very little secretion, where no fat was observed in the feces, and that, on this account, he modified his views on the subject. Dr. Reeves himself says—“I have met with several cases of chronic inflammation, obstruction of the ducts, and cancer of this organ, where no fat was observed, and its absence was always compensated for by an increased secretion from the other salivary glands.

“Fat, as a disease, must, I think, be looked upon as resulting from some change either in the bile itself or from the liver secreting it from the portal vein, the blood of which must contain an unusual quantity of fat, from its being re-absorbed,—and from the system not being in a state to re-receive it, instead of being taken up in the intestines by the columnar epithelium, already no doubt loaded with oil, it appears in the feces. In one of the cases which fell under Dr. Elliotson’s notice, the intestines were as if bathed in oil.

“As a proof of its being probably due to the first cause, I may cite the following instances: Chevalier found the bile of a man, who died from schirrous pancreas, to contain yellow semi-crystalline fat. Bizio found the same in some thick dark bile. Mérat also found it in the bile of a man in whose feces it had existed during life. During my studentship, the body of a female, highly jaundiced, was brought into the *École Pratique*; the gall-bladder and the ducts were distended with thick dark bile, and in it fatty masses were floating. The duodenum was inflamed, and the opening of the duct was obstructed. Portal met with masses in the livers of both a male and female who had passed fat during life. Dr. Ogle (*Transact. of Pathological Soc. of London*) found in the body of a patient who had died from disease of the kidneys, in an obscure form of pneumonia, masses in the liver equal in diameter to 6d., of a light yellow color, and in considerable number. The liver itself was in the first stage of cirrhosis. Under the microscope these concretions were found to consist of oily molecules, with a white amorphous blastema, and nucleolar corpuscles. The kidneys contained similar deposits. Mr. Lloyd found the common duct to contain a brownish-yellow fluid, like that passed during life. Further, every case of fatty discharge has presented some hepatic disturbance, generally jaundice, and when the opening of the duct into the duodenum became closed, the fat has ceased to appear.”

Dr. Reeves very carefully ransacks the clinical history of this subject, and refers to 16 cases, and these are the results:—

The liver was enlarged in eight out of the 16 cases; in six out of this number the gall-bladder and ducts were distended with thick dark bile; in the remaining

two, in one the right lobe was hardened, and the gall-bladder and canals contained concrete bile with fatty masses; in another it was pale and soft, its canals and gall-bladder being empty. In the remaining cases, in one the liver was small and hard; it contained concretions; its canals and gall-bladder were empty. In another case it was small and pale; its canals and gall-bladder empty; in two cases it was quite healthy; the canals empty; in one the gall-bladder was distended with thick bile. In two cases the liver was cancerous.

The Pancreas and Ducts.—In five cases no lesion of the pancreas and its ducts was observed. In two the gland was healthy, but their ducts contained calculi. In two of the cases it was generally hardened, their ducts contained calculi; in one of these the choloidic duct was wide above, but narrow below, from pressure of head of pancreas. In one case it was fatty, its ducts containing calculi. In four cases the gland was cancerous; one contained two tumors—one in centre, the other on its right head—in the other three the right head was affected, the rest of gland being atrophied in one instance; in the other two the liver was cancerous—in one of these the opening of common duct small, in the other the pancreatic duct was obliterated. In one case the right head of the gland was enlarged, the opening of the common duct closed. In another the right head was converted into a cyst, both the pancreatic and choloidic duct being obliterated.

ART. 55.—Iodine Injections in Ascites. By Dr. COSTES.

(*Gaz. Méd. de Paris*, Oct. 29, 1853, from the *Journal de Méd. de Bourdeaux*.)

In this article, Dr. Costes relates the particulars of two cases of ascites which he treated in this manner, and he thinks the results are favorable, though it is not probable that his opinion will be shared by every one. Dr. Costes appears to have published the particulars of some similar cases in 1851.

CASE 1.—The patient in this case was a delicate female, æt. 45. The operation was performed after a second tapping. The injection was composed of 40 grammes of tincture of iodine, 80 gr. of water, and 2 gr. of iodide of potassium. Immediately after the operation the heat left the extremities, and the patient became anxious and agitated; then nausea, acute abdominal pain, perspiration, and syncopal depression made their appearance. This state continued for 24 hours, and then gradually subsided. The ascites had not returned three months after the operation.

CASE 2.—A female, æt. 68. Here also, the injection was performed after a second tapping, but the fluid injected was weaker, viz., 30 gr. of tincture of iodine, 130 gr. of water, and 2 gr. of the iodide of potassium. This was on the 17th of July. A minute after the operation, the pulse was slow and almost imperceptible; then violent abdominal pain and great heat set in, and continued for a quarter of an hour, the face being pale and somewhat pinched. Half an hour later the patient began to vomit, and this vomiting and the symptoms of violent peritoneal inflammation continued for the next 48 hours. Then the acute symptoms subsided and as they subsided the ascites reappeared. On the 25th of August a second tapping and a second injection were performed and with the same results, only on this occasion the inflammatory symptoms were somewhat less violent. Eventually the fluid re-accumulated, and the patient broke down; death happening on the 30th of the next month. After death tubercles were found on the peritoneum, and some puriform fluid in the peritoneal cavity.

ART. 56.—On the Local Application of Chloroform Vapor in Tenesmus.

By M. EHRENREICH.

(*Pr. Ver. Ztg.*, 29, 1853; and *Schmidt's Jahrbucher*, Bd. 80, No. 10, p. 18, 1853.)

M. Ehrenreich relates the case of a patient suffering from dysentery, and tormented by agonizing tenesmus, in which he employed the injection of chloroform vapor with the most encouraging success. He poured thirty drops of the ether into an empty injecting syringe, and having passed the canula into the bowel, and allowed time for the chloroform to vaporise, he depressed the piston

partially, and so introduced some of the vapor into the bowel. The effect of this operation was some transitory irritation; but the tenesmus ceased, and did not return for three hours, and the bowel showed no disposition to act during this time. The relief, also, continued after this time, for the motions were much less bloody and unnatural than they had been previously. The day following, the tenesmus having returned, M. Ehrenreich put thirty drops of chloroform into a cupping-glass, and held the mouth of this loosely over the anal orifice. This application was followed by the same relief as the first, only on this occasion the primary irritation was a little more severe. No other application was necessary.

M. Ehrenreich proposes in future to put a drachm of chloroform into a small bottle, having a gutta-percha or india-rubber pipe of sufficient length,—to introduce the free end of the tube into the bowel,—and then to vaporize the fluid in the bottle, and cause the vapor to ascend through the tube into the bowel by the heat of the hand or of warm water.

ART. 57.—*Cases of Abscess in the Liver, pointing externally, and Opened by Incision, or Discharging into some of the Abdominal or Thoracic Passages and Cavities, with Remarks on the Treatment by Operation.* By M. STOVELL, Surgeon to the European General Hospital, Bombay.

(*Bombay Transactions and Indian Annals*, Oct. 1853.)

Mr. Stovell finds that, out of 299 cases of hepatitis admitted during the six years ending May 31st, 1852, 48, or 16·053 per cent. proved fatal. It is further shown that, out of the above 299 cases of hepatitis, abscesses pointed externally and were opened in 6, or 2·006 per cent.; discharged into the alimentary canal in 2, or 0·668 per cent.; into the peritoneal cavity in 1, or 0·334 per cent.; and into the bronchi in 11, or 3·678 per cent. It is further seen that, out of 6 cases in which the abscesses were opened, 5, or 83·333 per cent. proved fatal, while out of 11 which opened into the bronchi, only 5, or 45·455 per cent. proved fatal. Thus, out of 299 cases of hepatitis, there occurred 48 deaths. Abscess supervened in 20 cases, 13 of which proved fatal. There was not any instance in which an abscess opened spontaneously, either externally or into the pleural cavity. Mr. Stovell gives several cases in detail, and concludes his interesting paper with an historical sketch of the operations for evacuating hepatic abscesses, to which we think he might have added many important particulars from several sources, and especially from a chapter devoted to the subject in “*Pathologica Indica*.”

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 58.—*On the Characters of Urine depositing Oxalate of Lime.*
By Dr. DOUGLAS MACLAGAN.

(*Edinb. Monthly Journal*, Dec. 1853; and *Edinb. Medical and Surgical Journal*, Jan. 1854.)

1. The mean density of all the specimens of urine referred to in this interesting paper is 1024·4; the specific gravity is, therefore, somewhat above the natural standard. The observed difference of density between the morning and evening urines is confirmed by Dr. Maclagan's experience, and has reference to the fact that the presence of this deposit in the urine is commonly connected with a disorder, more or less important, of the digestive and assimilative processes.

2. Concerning color—as a general rule it was paler than the average of healthy urine.

3. Odor—sweet briar smell frequently; in some instances more or less fetid, never ammoniacal; only a very few times even urinous.

4. Reaction—in generally strong acid.

5. Saline and other concomitants.—In 37 specimens.

	Morning.	Evening.
Oxalates unmixed,	16	14
Oxalates with other saline deposits,	16	20
Not examined,	5	3
	—	—
	37	37

Of the saline concomitants the lithates alone occurred frequently; next to them, but comparatively rarely, the uric acid, oxalates, and amorphous phosphates; and again in almost solitary instances, triple phosphate, cystine, xanthein, pus, sugar, blood, and in six instances a more or less notable reaction of purine. Epithelium in the 37 specimens.

	Morning.	Evening.
Copious,	12	10
Trifling,	20	24
Not examined,	5	3

As a general rule, the amount of oxalate is much greater in the evening than in the morning urine.

ART. 59.—On the Diagnostic Value of the absence of Chlorides in the Urine. By Dr. HUGHES BENNETT, Professor of Clinical Medicine in the University of Edinburgh.

(*Edinburgh Monthly Journal*, April, 1854.)

"Simon and Redtenbacher," writes Dr. Bennett, "first stated that chloride of sodium, a salt always present in healthy urine, was absent from that fluid during the onward progress of pneumonia, and returned to it when absorption of the exudation was about to commence. This statement was confirmed by Dr. Beale of London, who, in the 35th vol. of the Transactions of the Medical and Chirurgical Society of London, furthered our knowledge regarding it by additional valuable researches. My attention was directed to this remarkable fact during the present session by Dr. Robert Cartwright, a gentleman attending the Clinical Wards of the Infirmary, who informed me that he had seen it occasionally of great service in a diagnostic point of view, in the clinical wards of Professor Oppolzer at Vienna. It so happened that a man, John M'Donald, æt. 25, had just been admitted laboring under well-marked simple pneumonia at the apex of the right lung. He was a laborer, who had enjoyed perfect health until two days before admission, when, on being exposed to wet and cold working at drains, he was seized with shivering followed by fever, and the usual symptoms and signs of pneumonia. On adding a drop of nitric acid to some of his urine in a test tube, and then dropping into it a little solution of the nitrate of silver, the fluid remained clear, although so great is the delicacy of this test, that a white cloudy precipitate is at once formed, if a very minute quantity of the chloride of sodium be present. It was on the fourth day of the disease that the observation was first made, and the chlorides remained absent during the fifth and sixth days, during which period the disease extended from above downwards, until it occupied the upper two-thirds of the right lung. On the seventh day a slight haze was observed in the urine, indicating that the salt was returning to that fluid, and the man expressed himself as being much better. On this day there was great dulness on percussion, all crepitation had ceased, the breathing was tubular with bronchophony. On the eighth day slight returning crepitation was audible, the dulness had diminished, but the urine, owing to some accident before the visit, had been thrown away. On the ninth day, however, the chlorides were abundant in that fluid, together with lithates; loud crepitation was now universal throughout the lung, and the dulness had nearly disappeared. From this time the man made a rapid recovery, never having been bled, and was discharged quite well on the sixteenth day.

I now requested Mr. Seymour, one of the clinical clerks, to test the urine of all the patients in the ward, and others who might subsequently be admitted, which he did, and thus collected a large number of observations, the results of which I shall allude to immediately. In the mean time another case entered, which seemed to point out the value of this test in a diagnostic point of view. It was that of a man, Donaldson, æt. 26, laboring under typhus fever, in whom the disease ran its usual course to the tenth day, when chlorides were demonstrated in it. On the eleventh day, however, pulmonary symptoms came on, and the chlorides were entirely absent from the urine. This led me to make, with the clinical class, a careful examination of the chest, when all the signs of

pneumonia were detected in the lower half of the right lung. On the fourteenth day the chlorides reappeared, the pneumonic signs diminished (?), and the fever ceased with a critical sweat.

The third case was even more satisfactory in proving the moment of commencing and departing pneumonia by testing the urine for chloride of sodium. A man called David Murray, æt. 43, entered with pneumonia of the lower two-thirds of the right lung. No consistent account could be obtained from him as to when the disease commenced, and it was impossible, therefore, to determine whether the coarse crepitation which was audible over the inflamed lung was the advancing or returning crepitation. But the chlorides were absent from the urine, which indicated that the disease was advancing. The following day complete consolidation had occurred, with dry tubular breathing and absence of crepitation, and a minute quantity of the chlorides was found in the urine. The patient, however, instead of getting better showed no improvement, and the next day the chlorides had again disappeared, indicating extension of the pneumonia. On the evening of this day he was seized with acute meningitis, of which he died. On dissection, in addition to universal cerebral meningitis, the whole of the right lung presented the usual characters of gray hepatization.

These cases serve to point out a remarkable connection between the absence of chlorides from the urine and the onward progress of pneumonia. I forbear from offering any opinion as to the theories which have or may be advanced on this subject. The fact requires to be more extensively investigated clinically than has yet been done to test its value. Still it seems to me, that where pneumonia exists, inferences of great importance as to the stage and progress of the disease may in this way be arrived at by the physician, of which he would be wise in future to avail himself, more especially when the test is so easily applied, and its character so readily determined.

Mr. Seymour tested with great care, and at repeated times, the urine of upwards of fifty other cases in the wards, embracing a great variety of disease. He found the chlorides absent in one case of phthisis, with intercurrent pneumonia, but in no other. They were also absent in one case of peritonitis, and in all the cases of small-pox. Farther investigation will probably discover these salts to be absent in other diseases, which, although it may diminish the importance of the sign as distinctive of pneumonia, leaves unaffected its value as pointing out the onward progress of that disease. The whole subject, however, being so new in a clinical point of view, it is evidently premature to speculate in any way regarding it.

I need only now allude to one other point, viz., that if any phosphates exist in the urine, nitrate of silver throws down a faint sediment, which, although it cannot be mistaken for the precipitate of chlorides in healthy urine, may be confounded with the appearance it presents when small in amount. In such a case the action of ammonia, by dissolving the chlorides, is at once distinctive.

ART. 60.—*On the Uses of Alkalies in the Treatment of Acidity of the Urine.* By Dr. BENCE JONES, Physician to St. George's Hospital.

(*Medical Times and Gazette*, March 25, 1854.)

Regarding the use of alkalies (we quote from a recent clinical lecture by Dr. Bence Jones), two kinds of action may be distinguished.

The first is curative; the second palliative.

The curative action consists in the promotion of oxidation, in causing the acids to pass into their ultimate combinations, carbonic acid and water, which pass off by the lungs, and thus leave the kidneys free; but the primary and more direct action is palliative. Alkalies neutralize acids, and the free acid is thus for the time removed. Still, this action is beneficial only so long as the alkalies are continued, and they must be continued until the curative action is completed. Thus, patients may be kept for weeks on alkalies, and two days after the alkali is omitted, the uric acid may reappear in the urine in the form of red sand. The most striking instance which I have seen of this is the following: A gentleman had for three months been under my care for uric-acid gravel; the excessive acidity was checked; to remove it I advised him to go to Vichy. He

went For six weeks he took an alkaline hot bath for one hour each day. He drank from five to twelve half-pints of Vichy water, by which the urine was kept alkaline from fixed alkali, as the test paper which he sent me showed; and the day after he landed in England, on his return, the uric acid reappeared in the urine. He continued the alkaline treatment some time longer, and for months no red sand appeared.

You may perhaps say, Which of the alkalies is best, and to what extent should it be given? In consequence of the constant supply of soda in the common salt of food, I think potassa is most likely to be needed and to be beneficial. In the *Philosophical Transactions* for 1849, you will see a paper in which the action of potassa and tartrate of potassa on the urine is traced. The tartrate of potassa has a much more immediately sensible action on the urine than caustic potassa. The caustic potassa had, however, a decided action in neutralizing the acidity of the urine.

In the *British and Foreign Medical Review*, January, 1853, there is a paper by Dr. Parkes on the action of potassa. He speaks of taking a drachm of liquor potassæ in two ounces of water, and two drachms in three or four ounces of water. It taken on an empty stomach, it increased the flow of urine,—urine which was faintly acid soon became alkaline. He says two drachms in only four ounces of water caused me epigastric pain and uneasiness, although it produced considerable temporary scalding of the mouth and throat, and without apparently producing any local effects on the stomach. This degree of dilution is not sufficient in most cases. There is a patient now in the Queen's ward, who complains of pain in the epigastrium and great soreness of the mouth, caused by half a drachm in an ounce and a half of water; moreover, this quantity I have known cause blood to be vomited.

Of the carbonate of potassa, larger quantities may be taken without injury to the stomach. Induced by the promise of a certain cure, patients will take much stronger doses of a quack medicine than of a Pharmacopœia preparation of the same substance, recommended with an accurate statement of the probable benefit to be derived from its use. Thus, the so-called "constitution water" is only a strong solution of carbonated alkali, which patients will take for weeks. It is with great difficulty that they can be persuaded to take an equivalent quantity of bicarbonate of potassa for a few days.

That large quantities of alkali may be taken without any injury for long periods is proved by cases on record. Among others, you will see an account in vol. v. of the *Médecino-Chirurgicale Transactions*, p. 80, of a young lady who began with half an ounce of subcarbonate of soda daily. She progressively increased it to an ounce and a half, two ounces, two ounces and a half, and finally to three ounces. This last quantity caused vomiting, and in a few days had to be lessened. She continued two ounces and a half daily for many months. the urine was alkaline; specific gravity, 1016; the blood drawn during the treatment coagulated firmly; there was no appearance of any deliquescence or impoverishment of it.

A very convenient form for taking the carbonate of soda exists in these soda lozenges, which consist of compressed carbonate of soda only.

Regarding the action of ammonia, I must refer you to experiments on the carbonate and tartrate given in the *Philosophical Transactions* for 1851. The chief result is, that ammonia does not act as an alkali on the urine: it may neutralize acidity in the stomach, but it does not affect the urine like fixed alkali.

To neutralize acidity alkalies should be given when the stomach is full, that is, from one to three hours after breakfast, and from one to six hours after dinner. The amount of acid in the stomach during healthy digestion appears from my experiments considerably more than would be neutralized by the usual doses of a kali. At least in some healthy persons half an ounce of carbonate of potassa will not neutralize the gastric juice, and not unfrequently twice as much alkali would be required.

You may ask, How is the quantity of alkaline medicine to be determined in these cases of excessive acidity, and how long is the alkaline treatment to be continued? The rule is this. The urine must be passed into a clean phial, and the sooner the red crystals appear on the glass, or can be detected by the

microscope, the more alkali must be taken, and it must be continued as long as the uric acid crystals are formed. If no crystallization occurs in twenty-four hours the alkali may be stopped.

If, then, you find red sand in the urine, determine how soon the crystals form. The sooner the crystals occur the greater the acidity. The more alkali must be given, and the stricter must the dietetic rules be. If the red sand forms in the bladder, much larger quantities of alkali should be given than when it only forms after the urine has been passed; for each grain of red sand which forms in the bladder and kidneys may become the nucleus of a stone.

ART. 61.—*On the action of Various Remedies in the Treatment of Diabetes.* By Dr. BASHAM, Physician to the Westminster Hospital.

(*The Lancet*, Jan. 21 and 28, 1854.)

In these papers Dr. Basham relates several cases in illustration of the effects of several different kinds of remedies,—permanganate of potass, glycerine, sulphite of soda, hydrochloric acid, opium, diaphoretics, and alkalies. These several remedies were never administered in conjunction; and if in the same case two or more have been tried, a day or two has been allowed to elapse, in order that the phenomena noticed might be fairly referred to the remedy employed. In the end Dr. Basham finds,—

1st. That the permanganate of potass was given in two cases; that during its administration the amount of sugar excreted gradually increased, although the fluid amount of urine became somewhat less, and the thirst appeared to be alleviated. No inconvenience attended its use; ten-grain doses were taken without any unpleasant effects on the digestive organs: indeed, it was thought that some benefit arose from it, as the fulness and eructations in one case seemed relieved by it. But during its administration the ratio of the sugar steadily increased; this occurred equally in both cases; the symptoms of each differed but little in intensity; there was but a slight discrepancy in their several ages, and in both the disease was unaccompanied by any pulmonary complication, so that there was scarcely room for a doubt that the increased amount of oxygen supplied to the food by the permanganate of potass facilitated the formation of sugar, and did not, as hypothetically inferred, advance the chemical conversion of the glucose into the stage of acid metamorphosis. Dr. Wood, of Philadelphia, has tried yeast in diabetes on the principle here enunciated, that as it converts sugar out of the body into acid products, acetic and carbonic acids, it might bring about analogous changes in the stomach. On a like principle, Dr. Gray, of Glasgow, has tried rennet, which converts sugar into lactic acid.

2dly. From the operations of the agents of the second class, administered on the hypothesis of their possibly retarding the conversion of the amylaceous elements of food into sugar, we can deduce only negative results. They were tried only in one case, and during a period of twenty-one days the amount of sugar was only faintly diminished, the specific gravity falling from 1044 to 1040, the average daily amount of urine remaining the same. The case in which these remedies were tried was one of great severity, and ultimately proved fatal; yet, notwithstanding, other remedies succeeded in reducing the amount of sugar, though only temporarily. Although glycerine and sulphite of soda failed in producing any effects in this case, Dr. Basham is, nevertheless, desirous of again submitting these remedies to further trial, and testing by the evidence of more extended observation the fallacy or otherwise of their hypothetical agency.

3dly. *Opium and Opiates.*—These cases afford but a limited amount of evidence on the action of these agents. Opium certainly operated as a palliative; the thirst became much relieved, the amount of urine diminished, and the skin, by the presence of sudoresis, indicated a relief to its obstructed function; but the daily average amount of sugar excreted was not materially lessened, and the physical condition of the patient was not improved. Some constitutions will bear opium much better than others, and it must not be inferred that because these cases do not exhibit its agency in a more favorable light, that opium may not in other instances produce more remedial effects.

4thly. *Hydrochloric Acid*.—The action of this mineral acid appears in a favorable light in one case: it promoted the digestive function, relieved the flatulence, and probably furnished an important material to the solvent functions of the stomach. In other forms of dyspeptic derangement its agency is familiar. It should always be taken some few minutes *before* food.

5thly. *Diaphoretics*.—These may be administered in conjunction with opium. The suppressed function of the skin is so very evident in all cases of diabetes, becoming harsh, wrinkled, and furfuraceous, patients seldom perspiring, and relief being always apparent so soon as any moisture is obtained on the surface, that remedies which promote the cutaneous excretion are always more or less indicated. Opium itself tends to promote diaphoresis, even when given alone, and its action in this respect may be much increased by combining it with antimonials. Flannel clothing should be strictly enjoined. Several of these cases illustrate the advantage of warm baths in conjunction with these agents.

6thly. *Ammonia and Alkalies*.—The testimony of almost all writers on this disease is in favor of the remedial power of alkalies, particularly of the carbonate of ammonia; and the cases under consideration corroborate the opinions of the most experienced physicians on their efficacy. The fifth case presents the most satisfactory proofs of this plan of treatment, as the patient left the hospital temporarily cured. Of the mode of action of alkalies in this disease, little is known beyond what is hypothetical. Mialhe states that the blood in diabetes is deficient in alkaline salts; and he affirms that the ultimate conversion of the sugar formed out of the food, into products capable of being eliminated by the respiratory function, is not effected in consequence of the deficiency. To supply this defect should be the leading principle in the treatment of glucosuria. Whether we adopt this theory or not the fact remains indisputable, that a larger amount of relief is obtained by a steady and persevering use of ammonia and alkaline salts than can be procured by any other class of remedies. However, to render them efficient, a well-regulated diet must be rigidly followed, and this should be limited as much as possible to animal or nitrogenous food. In the opinion of Bouchardet, clothing ranks next to diet. Moreover, the intelligent co-operation of the patient is absolutely necessary; for, unless he can be made to understand and enter into the object for which so strict a diet is prescribed, the effects of the alkaline plan of treatment will prove uncertain and unsatisfactory. The progress of cases in private practice is for the most part always more satisfactory than among hospital patients, principally for this reason, that intelligence lends force to the efforts of self-denial, and develops a more powerful control over the appetites and habits; the less educated are but little inclined to abstain even from things which they know to be positively injurious, and they with difficulty can be brought to comprehend the necessity for refraining from bread and vegetables, which their necessities have always taught them to be the staple articles of their food.

ART. 62.—*Case of Diabetes Mellitus treated by Rennet*. By Dr. FEARNSIDE, Physician to the Preston Dispensary.

(*Edinburgh Monthly Journal*, March, 1854.)

This case is of considerable value as an additional means of testing the value of Dr. Gray's suggestion respecting rennet in the treatment of this disorder. The facts already recorded will be found in our former volumes (xvi. and xvii.)

CASE.—Mrs. H., a tall, spare woman, æt. 55, had suffered from bad health for some time, without being able to indicate the existence of any special ailment. She had lost strength and flesh, and for some months before she fell under my notice, her debility had increased so much that it was with difficulty that she attended to her ordinary domestic duties. For a considerable time she had remarked that the quantity of urine passed was excessive, and she had been harassed by constant thirst. When I saw her the expression of the countenance was haggard and anxious; the skin was hot and dry; the pulse quick; the tongue was loaded with a yellow fur; she complained of inodorous eructations, heartburn and flatulence; the bowels were confined; the thirst inordinate. There was great muscular weakness, and severe pains in the back and limbs.

The quantity of urine passed in twenty-four hours was five quarts; it was acid; specific gravity 1046, and gave evidence on the application of the potash and copper tests of containing sugar.

After the use of some gentle aperient medicine, the diluted mineral and hydrocyanic acids were prescribed, and with more or less regularity, were taken for some months. The diet was strictly limited to butcher-meat, fish, eggs, milk, and bran bread. Fresh vegetables, as cabbages, were taken occasionally. Brandy and water was allowed as a beverage. A dose of rennet was taken after each meal.

A fortnight after the adoption of this plan, the patient became so conscious of its good effects, that notwithstanding the vigorous exercise of self-denial which it required, no farther exhortations were needed to insure its steady employment. The digestion improved, the thirst subsided; the quantity of urine passed in twenty-four hours fell from five quarts to two quarts, and eventually to three pints, and its specific gravity descended in three months from 1046 to 1020. It has now for some months been free from sugar, although the patient has cautiously and gradually returned to her ordinary mode of life. She has recovered in a considerable degree her strength, but remains spare and thin.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 63.—*On the Keloid of Alibert and on True Keloid.* By (1) Dr. ADDISON, Physician to Guy's Hospital, and (2) Dr. ALDERSON, Physician to St. Mary's Hospital.

(*The Lancet*, Feb. 28 and March 11, 1854.)

1. The more immediate object of Dr. Addison's communication (which was read before the Royal Medical and Chirurgical Society) is to show that the Keloid originally described by Alibert was altogether different in its mode of development, character, and progress, from another disease occurring in the same tissue, and to which with much greater aptitude the term keloid might be applied, if regard be had to the resemblance to the effects created by a burn, which the author thought the correct interpretation of the word,—he deriving it from *καλός, quasi ustione facta macula*. The keloid of Alibert and others could hardly be regarded otherwise than as a fibrous tumor developed in the subcutaneous areolar tissue; the other form of the disease, although originating in the same tissue, was of a character, and led to consequences widely different. The keloid of Alibert first appeared in the form of very small, hard, shining, tubercular-looking elevations, of a roundish or oval shape, of a dusky deep-red color, and attended with itching and pricking sensations in the part. These tumors slowly increased, and comprised an area varying from that of a horse bean to that of a small almond. The tumor displayed oftentimes a hardness and elasticity which conveyed the notion of so much fibro-cartilage, to which it had not inaptly been compared. After an uncertain period, the outline of the tumor became broader and more irregular, and by the aid of a magnifying glass, delicate, whitish, tendinous-looking lines might be perceived stretching across the surface of the tumor, mingled with minute bloodvessels of a bluish or purple color. The extension of each individual tumor seemed to be effected by certain tapering claw-like processes proceeding from its edges and angles, and thus was produced a puckering of the skin. The development and growth of these tumors might proceed for months, or even years, and at last attain the size of an inch, or even two inches. As the growth of the tumor increased, the sensations of pricking and itching become aggravated to a sense of constriction, or even severe stabbing, extremely distressing to the patient. The morbid product which essentially constituted the keloid of Alibert took place in the subcutaneous areolar tissue between the cutis and adipose membrane. Females from the age of eighteen to thirty-five were most frequently the subject of the disease. The situation of these tumors was usually near the sternum, or between or upon the mammæ. It was, however, found sometimes in the male. Alibert considered the disease in some way allied to cancer. Several cases were described, and a number of beautifully executed models and drawings illustrated the form of the

disease. The author then entered upon the subject of true keloid,—a form of disease leading to much more serious consequences than the keloid of Alibert. With the exception of a slight allusion to it by Dr. Coley, the disease had not been noticed or described. Like the above-described disease, it had its seat in the subcutaneous cellular tissue, and was first indicated by a white patch or opacity of the integument, of roundish-oval shape, varying in size from a silver penny to a crown-piece, scarcely elevated above the surrounding skin, and unattended by any local pain or other inconvenience; a more or less vivid zone of redness surrounded the whole patch, attesting the presence of vascular activity in the parts beneath. When the patch had attained a larger diameter, its surface presented a faint yellowish or brownish tint, communicating to the spot a mottled appearance. With the progress of the disease a hardness and rigidity of the part occurred, accompanied by itching and a sense of pain and constriction; and when situated on the extremities, the hardness might be traced along the course of the tendons, interfering with the motions of the limb, imparting a sense as of hide-bound, and oftentimes distorting the gait, and making the patient a cripple for life. As the disorder proceeded, a change of color took place, becoming reddish, yellowish, or of a dead-leaf color. The cutis manifested a disposition to superficial ulceration, and when not excoriated, there were often seen tubercular or nodular elevations, the whole strongly resembling the remains of an extensive and imperfectly cicatrized burn. From some part of the boundary of the discolored skin might now and then be seen reddish claw-like processes extending into the sounder integument, and bearing a very exact resemblance to those mentioned as characteristic of the keloid of Alibert. The pain and uneasiness of the part, the red zone surrounding the patch, the injection of the neighboring veins, justified the inference that the morbid process was one very nearly allied to inflammation, probably of the strumous kind. This form of the disease was illustrated by a number of cases, models, and drawings. The author did not deem it expedient to dwell upon the various remedies which had been employed, but with the exception of iodine none seemed to make the slightest impression either upon the appearance or progress of the disorder.

2. At the previous meeting of the Medical and Chirurgical Society, to that on which Dr. Addison had made his communication, Dr. Alderson related the particulars of a case of skin disease accompanied with partial hypertrophy of the mammary gland, which appears to be of the nature of the disease which has just been called "true keloid."

The subject of this case was a young lady, aged twenty, of fair complexion, light blue eyes, and fair hair. When first seen, the left breast presented a diseased surface, at the upper part, to the extent of about four inches in length, by about an inch and three-quarters in width. The appearances presented were, a perfectly smooth, polished surface, of an opaque, yellowish-white color, like polished vellum or ivory; the margin of the diseased portion was defined by a strongly-marked border of injected vessels, but on the polished surface no vascularity could be perceived; there was no exudation whatever on any part of the breast; no crust or scurf of any kind. This state of the skin had existed for nearly a twelvemonth. The breast itself was larger than its fellow, and, when handled, presented several hard, resisting, nodulated tumors. A small, enlarged gland was situated in the left axilla, to which an absorbent vessel could be traced from the breast. No pain was experienced by the patient in the affected part. Mr. Hodgson was consulted on the case, and was led to pronounce an unfavorable prognosis, as it bore some resemblance to a case which ultimately displayed itself as carcinoma. Sir Benjamin Brodie subsequently was consulted, and in his large experience could only adduce a single similar case, in which the process of cure had been effected by throwing off successive layers of diseased skin, during which the extent of surface became continually reduced, the skin beneath ultimately assuming its natural aspect. He thought the disease less allied to carcinoma than to dry gangrene. The plan of treatment had hitherto been alkaline alteratives, with local application of iodine. The general treatment was but little varied: an alterative every other night, with the liquor potassæ in liquid extract of sarsaparilla, and glycerine was directed to be rubbed on the part night and morning. After six months the surface of the breast had

returned to its natural state, the patient stating that it faded gradually away. The author concluded with some remarks on the probable pathology of this peculiar disease of the skin.

ART. 64.—*On Insect Larvæ under the Human Skin.* By Dr. LONDRES.

(*Nederland Weekbl.*, July, 1852; and *Edinb. Med. Journal*, April, 1854.)

According to this author, there are often found in Surinam, below the skin, both of Europeans and negroes, the larvæ of an insect called there the "mosquito-worm," which resembles closely the *Oestrus Bovis*. These occasion furunculoid circumscribed tumors, the size of a nutmeg, which discharge a bloody serum through a small opening at the surface. These tumors are very painful, and, if not subjected to treatment, they form open ulcers. The treatment adopted is blowing tobacco smoke into the tumor through the aperture, and thereafter squeezing it, which causes the larvæ to crawl out of its centre. Dr. L. found them rapidly cured by free incisions. He cannot yet determine whether these larvæ belong to the *Oestrus Bovis* species, or whether they are different—the *Oestrus Hominus*. Howship mentioned to the Medical and Chirurgical Society of London the case of a soldier from Surinam, who had the *Oestrus Hominus* in his shoulder, and of a youth in Santa Anna, in South America, in whose scrotum they were discovered. Baron von Humboldt also saw Indians in South America, whose abdomens were covered with small tumors, which he conceived to be due to the subcutaneous presence of the larvæ of the *Oestrus*.

ART. 65.—*On the Cure of the Itch.* By Lieut.-Colonel JEBB, C.B.

(*Medical Times and Gazette*, April 8, 1854.)

The following extract is from the "Report on the Discipline and Management of the Military Prisons in 1852," by Lieut.-Colonel Jebb, C.B. (Blue-Book.)

"Each case of itch during the past year has been treated according to the plan formerly adverted to, viz., friction of the body with brick-dust, so as to expose the *acari* to the sulphur ointment, which is then well rubbed in for half-an-hour, and after this the man is subjected to a good ablution of soap and water. The whole time occupied by this proceeding is less than an hour and a half, and perfect cure was established in each instance. Under the old plan the men were placed for three days in the itch cell, wrapped up in blankets smeared with sulphur ointment; and a less period did not kill the *acari*."

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

(A) CONCERNING TUMORS.

ART. 66.—*On the Relation between Goitre and Tuberculosis.* By Dr. HAMBURGER.

(*Vierteljahrsschrift für die Prak. Heilk.*, 1853; and *Gaz. Méd. de Paris*, Dec. 31, 1853.)

Hoping to arrive at some definite results respecting the relation existing between these two maladies, the author has examined the bodies of 100 goitrous persons. Out of this number he finds hypertrophy of the heart in 9 instances, pulmonary emphysema in 28, chronic laryngitis in 3, constriction of the larynx in 2, and tubercle in 19; half the thorax depressed and contracted in consequence of a former pleurisy in 5, and the lungs healthy in the remaining 34.

These cases are given in detail, particularly those of the persons affected with tuberculosis, and the consideration of the whole number is supposed to justify these conclusions.

1. That goitre and tubercle are not unfrequently met with in the same person.
2. That when goitre and tubercle are associated, the tubercle remains stationary, and can only be detected by its physical signs.
3. That goitre may be developed in a person affected with tubercle, but not tubercle in a goitrous person.
4. That tubercle existing in a goitrous person never passes into a state of softening, and that the goitre disappears more or less if phthisis should become developed.

ART. 67.—*The Results of Surgical Operations in Malignant Disease.* By Dr. GROSS, of Louisville, Kentucky.

(*Transactions of the American Medical Association*, vol. iv., 1853.)

In his report on this subject, Dr. Gross reviews with considerable care the existing evidence, American and European, and his conclusions are—

1st. That cancerous affections, particularly those of the mammary gland, have always, with a few rare exceptions, been regarded by practitioners as incurable by the knife and escharotics. This opinion, commencing with Hippocrates, has prevailed from the earliest records of the profession to the present moment. Nature never cures a disease of the kind; nor can this be effected by any medicine or internal remedies known to the profession.

2d. That excision, however early and thoroughly executed, is nearly always, in genuine cancer, followed by relapse, at a period varying from a few weeks to several months from the time of the operation.

3d. That nearly all practitioners, from the time of Hippocrates to the present day, have been, and are still, averse to any operation for the removal of cancerous tumors, after the establishment of ulceration, rapid growth, firm adhesion, organic change in the skin, lymphatic invasion, the cancerous dyscrasy, or serious constitutional derangements, on the ground that, if had recourse to, under these circumstances, the malady almost inevitably recurs in a very short time, and frequently destroys the patient more rapidly than when it is permitted to pursue its own course.

4th. That in all cases of acute carcinoma, or, in other words, in all cases of this disease, attended with very rapid development and great bulk of the tumor, extirpation is improper and unjustifiable, inasmuch as it will only tend to expedite the fatal result, which, under such circumstances, always takes place in a very short time.

5th. That all operations performed for the removal of encephaloid cancer and its different varieties are more certainly followed by rapid relapse than operations performed upon scirrhous or hard cancer.

6th. That in nearly all the operations for cancerous diseases, hitherto reported, the history has been imperfectly presented, being deficient in the details which are necessary to a complete and thorough understanding of the subject in each case. This remark is particularly true in reference to the diagnosis of the malady, the minute examination of the morbid structure, and the history of the case after the operation, as to the period of relapse, the time and nature of the patient's death, and the result of the post-mortem examination.

7th. That cancerous affections of the lip and skin, now usually described under the name of cancrroid diseases, are less liable to relapse after extirpation than genuine cancerous maladies, or those which are characterized by the existence of the true cancer-cell and cancer-juice.

8th. That, although practitioners have always been aware, from the earliest professional records, of the great liability of cancer to relapse after extirpation, a great majority of them have always been, and still are, in favor of operation in the early stage of the disease, especially in scirrhous, before the tumor has made much progress, or before there is any disease of the lymphatic ganglions, or evidence of the cancerous cachexy.

9th. That many cases of tumors, especially tumors of the breast and testicle, supposed to be cancerous, are in reality not cancerous, but of a benign character, and, consequently, readily curable by ablation, whether effected by the knife or by escharotics. It is to this circumstance that we must ascribe the astonishing success which is said to have attended the practice of Hill of Scotland, North of England, and Flajani of Italy.

10th. That all operators insist upon the most thorough excision possible; removing not merely the diseased mass, but also a portion of the surrounding and apparently healthy tissues, as well as all enlarged and indurated ganglions.

11th. That the practice has always prevailed and still obtains, to save, if possible, a sufficient amount of healthy integument to cover the wound, and to unite, if possible, the wound by the first intention; on the ground that these precautions will tend much to retard, if not to prevent, a recurrence of the disease.

12th. That much stress is laid by writers upon a properly regulated diet, and attention to the bowels and secretions after operation, as means of retarding and preventing relapse.

13th. That there is no remedy, medicine, or method of treatment which has the power, so far as we are enabled to judge of its virtues, of preventing the reproduction of the morbid action after operation, no matter how early or how thoroughly it may be performed.

14th. That life has occasionally been prolonged and even saved by operation after relapse, as in some of the remarkable cases mentioned in a previous part of this report; but that as a general rule, such a procedure is as incompetent to effect a permanent cure as a first extirpation.

ART. 68.—*On the Treatment of Cancer by Congelation.*
By Dr. JAMES ARNOTT.

(*The Lancet*, April 15 and May 6, 1854.)

We have already noticed (*vide Abstract*, vol. vii., and vol. ix.,) Dr. Arnott's views respecting the remedial value of cold in several maladies, and now we recur to the subject in order to notice the application of this means to the treatment of cancer, and of relating two cases which are given in illustration—cases which are stated to be merely examples (and not the most favorable) of several of the kind which have come under the author's notice.

"The use of cold in cancer is by no means a new proceeding; no practice is of older date, or has been in more general use. All that I have done is to exhibit the remedy in a greater dose than it had previously been exhibited. Having ascertained the important facts that the circulation of blood in a morbid part

may be temporarily suspended by intense cold, without in the slightest degree endangering the vitality of the part, and that such a suspension, and other concomitant effects of this degree of cold, are highly curative in inflammatory and neuralgic affections, I merely applied it in cancer to arrest the inflammation accompanying the disease, on which the rapidity of its progress, and many of its most distressing consequences, depend, and at the same time to assuage the pain by its permanently benumbing or narcotic property. I at first expected only to find a substitute for the very inefficient and otherwise objectionable remedies of inflammation and pain in common use in cancer; and had congelation only fulfilled these indications, it would have been very valuable; but experience has shown that it has still more powerful effects in this disease, although, from the unknown nature of cancer, it is as difficult to account for these as it is to explain how the exhibition of bark or quinia cures an ague. Professor Bennett of Edinburgh, expresses (in his able work on *Cancer*) the opinion, that, 'were it possible to bring down the temperature of an entire cancerous growth below the vegetating point, we must inevitably kill it;' and it is not improbable that to such destruction of the vitality of the cancer-cells—to the killing of these parasitic animalcules—the curative influence of congelation may be chiefly due. But however satisfactory it might be to ascertain the mode of operation of the remedy—whether it acts in this manner, or by some unknown change produced in the functions of the vessels or nerves of the part, in addition to its obvious power of suppressing inflammation and assuaging pain—the chief point is to know whether it has great control over cancer, and this can be ascertained only by experience."

In evidence of its possession of such power, Dr. Arnott then adduces two cases.

CASE 1.—I saw this patient during a visit which I made to the north of Scotland in the spring of 1852. I learned from her that there had been a hard and painful swelling in her breast for upwards of two years; that lotions, ointments, and other remedies had been tried for its removal in vain; and that since she had refused to have the breast amputated, about nine months previously, she had consulted no medical man on the subject, and had only used the mildest applications.

The patient was about fifty years of age. Her general health was not good, but much of the derangement of the stomach and other organs was attributed to the increasing and intense anxiety she labored under on account of the affection of her breast. On examining this, I found a hard tumor of considerable size, or what appeared to be two contiguous tumors; the nipple was considerably retracted, and there was a slight morbid exudation from it; the pain was of a plunging character, and of such frequent recurrence as much to disturb her night's rest. The disease was evidently gradually progressing.

I applied a mixture of ice and salt for about five minutes on two occasions, with only about a week's interval between them, as I was anxious, before leaving Inverness, to make a second application in the presence of her husband, who was to continue the remedy, and to whom accordingly I gave the necessary instructions respecting it.

The results of his administration of the remedy were communicated to me from time to time, and the following are extracts from his letters:—

"May 25th, 1852.—In writing to you I feel intense pleasure in having to communicate that Mrs. M—— has been regularly and progressively improving since you saw her. We have got the caddis, goldbeaters' skin, oil skin, &c., and the gutta percha frames for the net and bladder have been nicely formed. In fact we have got everything you suggested, so that our apparatus and accessories are complete. We get the ice now daily, if necessary, and the applications have had the most desirable effect. * * * There is no internal pain whatever; the tumors are at least decreased *two-thirds*, and she sleeps well and comfortably at night. Everything is very encouraging, and as you could wish."

"May 31st, 1852.—I am truly happy to say that Mrs. M——'s breast exhibits a daily improvement, and there is consequently the greatest encouragement for perseverance in the same course. The *severe* application of the ice and salt has not been tried since you left, but the other (the milder) has been several times,

and always with the best results. We shall try the severe application in a day or two however."

"June 14th, 1852.—A *severe* application of the ice and salt was made on Wednesday, and although kept on for four minutes, and until the color of the skin became entirely changed, it produced no blistering. The bladder with iced water was kept on for half an hour afterwards, and there has been great ease since from occasional applications in that way. The tumors are perceptibly decreasing."

It is necessary, in explanation of this quotation, to state that the bladder with iced water, applied after the congelation, was employed to prevent the smarting that would otherwise occur from the too-speedy return of the natural temperature of the part. This would otherwise be sometimes severe; at other times, the patient scarcely complains of it, and dispenses with the application of the bladder. The description of the effects of the frigorific on the appearance of the skin would show that the materials had not been properly prepared or mixed, as when they are so, the skin is generally *immediately* blanched by them.

"July 14th, 1852.—The tumor continues very evidently, though slowly, to lessen in size and hardness. The general health I consider to be in a better condition than when you saw Mrs. M—. The ice and salt has been *strongly* applied four times since you left Inverness."

"27th.—I now write, owing to our being disappointed of ice as calculated on when I last wrote. Mr. —, of the —, who always supplied us, has sustained a severe loss by the man who had the charge of the ice-house leaving the door open for three days, so that the whole stock was dissolved, and there is not a bit to be got in the north."

After mentioning some details respecting the difficulty of procuring ice, (which might have been artificially made by a chemist at small expense,) he continues—

"I am glad to say, that the long interval has not been so prejudicial to the breast as I dreaded."

As matters appeared to my correspondent to go on in a satisfactory state, I did not again hear from him until after a lapse of nearly a year.

"June 16th, 1853.—The ice and salt has not been applied since I last wrote to you. There has, however, been no relapsing. The nipple has sunk or receded considerably since you saw it, but the tumor has almost disappeared—that is, there is very little hardness or tenderness remaining. There is, however, a hollow or kind of indentation across the breast, near the nipple, but not the slightest indication of a tendency to suppuration. There is, also, a frequent feeling of shooting or twinging pain."

In replying to this letter, I expressed regret that so long an interval had been allowed to elapse without using congelation, as there appeared reason to fear that a remnant of the disease was still present; and, in the next communication from the husband of my patient (the last which I have received), dated Nov. 15th, he mentions that the ice and salt had again been once applied. The only interesting circumstances noticed in this letter, respecting the condition of the breast, are, that "there is no hardness or tumor;" although there was occasional annoyance from the sticking of the lint to the skin in consequence of the "exudation of a gummy substance close round, but, so far as I can see, not out of the nipple."

CASE 2.—It was early in May of last year that I was consulted on this case. The patient had previously left her residence in Kent to ask the opinion of Mr. Lawrence, who not only agreed with her usual medical attendant that the tumor in the breast was cancer, but said that unless she immediately submitted to its excision, it might prove fatal within six months. She preferred the treatment by congelation. On examining the breast, I found a hard, flattened, hemispherical swelling, of about three inches diameter, knotted on its surface, contiguous with, but not adhering to the skin, excepting at the nipple, which was retracted and slightly ulcerated. There was at times a lancinating pain. The disease had existed more than two years, and although the usual routine had been had recourse to, no kind of treatment had appeared to be of any service. The disease gradually but steadily progressed.

The frigorific mixture of ice and salt was applied for about four minutes, the

usual precautions being taken to prevent the smarting that would otherwise take place on the return of sensibility to the parts which had been congealed. A similar application was repeated about every month by her medical attendant in the country; and after about six such applications I again received a visit. The tumor appeared to be smaller than when I first saw it, the decrease being chiefly in its thickness; and in other respects there was great improvement. She continued the same plan of treatment, and the principal results are recorded in the following extracts from a letter which I have lately received from her, dated April 6th.

The substance of this letter is, that the tumor continues of nearly the same dimensions; though it appears to be a little longer, it is less thick. She has not "for the last four months known what a bad night is, being always free from pain;" though during the day there is "at times, three or four, or perhaps more, transient pains, while, at other times, she passes some days without any pain." Her "general health is very good, and is kept good by regular exercise in the open air." As I had expressed the opinion that she should make longer intervals between the applications than a month, in order to ascertain whether the tumor was not now merely a lifeless mass, like a bullet in the flesh, which might give occasional uneasiness, particularly when the mind was intent on the subject, she states, in reply—"Five weeks have intervened between the last applications; I have these renewed, because, while I feel there is life in the tumor, I think they are necessary." She concludes a letter written a month previously (March 4th) by the expression of a wish "that every sufferer from the same disease were as happily delivered from the effects of cancer as she has been by this remedy."

As in almost every case which I have treated by congelation a certain degree of hardness and swelling remained after the disappearance of other symptoms, it is important to investigate the cause of this. On the supposition that cancer is essentially a congeries of living cells, we may reasonably think that the absorption of these, after their vitality has been destroyed, must be slow, if it take place at all; and perhaps the irritation that has induced patients to apply for the frigorific application afresh, may have proceeded from the presence of this inert mass of dead cancer-cells. I should be sorry, however, to think that the absorption of these never takes place, because in a voluminous congeries of cells it were difficult to understand how the cold could reach the inner surface of the mass without the absorption of the more superficial layers having previously taken place after the extinction of the life of the cells constituting them; unless, indeed, the layers of dead cells were to form so good a conductor as scarcely to resist its passage. But in their living state, the tumor in which they are interspersed is so dense and so little intermixed with bloodvessels, as to form a substance easily permeable by cold—as easily, perhaps, as cystic tumors are, the fluid contents of which I have congealed in applying cold to them, as an anæsthetic, previous to their excision.

(B) CONCERNING WOUNDS AND ULCERS.

ART. 69.—Stimulants in Snake-bites. By (1) Dr. LOWNDES, Assistant Surgeon H.E.I.C.S.; and (2) Dr. BLACKBURN.

(1) *Edinburgh Med. Journal*, Feb. 1854; (2) *American Lancet* and *Dublin Med. Press*, Sept. 28, 1853.

Both these cases are valuable, as furnishing additional evidence of the remedial power of stimulants under these circumstances.

1. *Dr. Lowndes' case.*—Shekapoor, Upper Scinde, 18th August, 1852.

A sepoy of 2d Belooch battalion, was bitten by a snake, said by the natives to be of the cobra species. He came to the hospital at about 5.30 or 6.0 A.M., next morning.

General Appearance.—Slight, but well made. About 25 years of age.

Symptoms.—Marks of fangs of snake a little anterior and inferior to internal malleolus of right ankle. Wounds not bleeding at all, nor had any application been used, a ligature only having been tied round the leg a little above the ankle.

Countenance natural, and at this time no expression of anxiety. No pain anywhere, except a slight pricking in the wound itself. Blood-spitting had commenced about three or four hours after the snake bite, and still continued. This was the only abnormal symptom; his pulse natural and breathing regular. The blood that was spat up had no tendency to coagulate, and exactly resembled that mentioned in the former case.

Treatment.—I made several small incisions—one to connect the two fang wounds, and one on either side, where there appeared some slight laceration. A cupping-glass was exhausted and placed over the wound; it was soon half filled with blood without tendency to coagulation. This had scarcely been done when the officer commanding the regiment asked if I had any objection to allow two sepoys, who said they could cure snake bites, to try to cure the man. I at once consented, only resolving to watch the case narrowly. I merely applied caustic to stop the bleeding. These natives first applied a poultice of small leaves (species of tree unknown) to the wound, and gave the patient a dose of croton oil seed. This latter produced considerable vomiting and much purging. 6 P.M. I again saw the patient; spitting of blood still continued; countenance expressed some anxiety; pulse about 96, full. Bleeding had recommenced from cut in front, probably to the extent of 3vj or 3vij. Still the same sort of blood. I left directions to be instantly summoned on the slightest change. 2 A.M. I was hastily called, as the patient was much worse. I found on my arrival that about half an hour before he had become weaker and weaker, and then almost suddenly had become insensible. I found him perfectly insensible; extremities cold and corpse-like up to upper part of his thighs and arm-pits. No pulsation could be felt at the wrist, nor could the beating of the heart be distinguished through the parietes of the chest. The action of the heart could only be recognized by pushing the hand up behind the sternum, and then a faint thrill could alone be recognized, much resembling the cardiac thrill felt in the same way on a newborn infant. The breathing could be recognized by placing the hand on the abdomen, which was much collapsed from purging by croton seeds. Wounds in front still continued bleeding, but not very much; spitting of blood had not occurred for about two hours before insensibility came on.

I ordered grs. v of bicarbonate of ammonia to be at once given, and repeated in five minutes; also a large enema of mustard and water, with 3ij of ammoniated tinct. of valerian, and a large mustard poultice to be placed on the cardiac region. Men were set to rub the extremities diligently. For the first quarter of an hour little or no change could be perceived. The enema of mustard and valerian was returned. The following mixture was then ordered:—℞ Chloroform 3j; arack (native spirit) 3ij; camphor mixture 3iij. Mix, and take 3j every ten minutes.

The mustard poultice was of little benefit, as the mustard was not sufficiently finely ground, being prepared on the spot. After two doses of the mixture, some improvement was perceptible. I thought I felt a pulsation at the wrist, intermitting, and very faint at first. At this time 3ij of the ammoniated tincture of valerian were given with warm water, as an enema, the mixture being still continued. In about two hours the dangerous symptoms had subsided, warmth had returned to the extremities, and the pulse was steady and regular. The mixture was gradually discontinued. The blood-spitting did not return. The patient remained in the hospital for a few days, until the wounds had healed, and he was then discharged well.

2. *Dr. Blackburn's case.*—I was called a few days since to visit a negress some eight miles from my office, who had been bitten by a large rattlesnake. I saw her eight hours after the wound had been inflicted. The snake struck her on the ankle. I found the patient deathly sick, cold rigors running over her; pulse 120, small, quick, and thread-like; the entire left leg was swollen to twice its normal size; in a word, I thought she was moribund. She complained of no pain in the affected limb, and even insisted that she had not been bitten. I commenced giving her corn-whiskey by the gill, and pushed the remedy until she had taken two quarts within twelve hours, when, discovering some symptoms of inebriation, it was discontinued. In the mean time, I applied warm emollient poultices to the wound, after having applied a cupping-glass for one hour. In

three days this negress was well and at her usual labor. She took no medicine save the whiskey, and on the second day a dose of Epsom salts.

The question here presents itself, would the usual remedies have been attended with success in this case? Had I not considered her in a moribund condition, she doubtless would have been treated, not *empirically*, but *scientifically*. I will remark, however, that this is the *fourth* case that I have treated successfully with corn-whiskey, occurring from the poison of venomous reptiles. I had oftentimes seen ardent spirits recommended in snake-bites prior to my having prescribed it. My confidence in the remedy never was fully established until witnessing the rash act of a man while in a beastly state of inebriation. He caught a large rattlesnake and held it, notwithstanding he was bitten several times, until the snake becoming so greatly incensed bit itself, which soon relieved it from its confinement. The reptile speedily died. The man never complained of the least pain or uneasiness.

ART. 70.—*On the use of Collodion in Burns.* By Dr. BLUMHARDT.

(*Wurtemberg Corres. Bl.*, No. 56, and *Edinb. Medical Journal*, April, 1854.)

This fluid, when applied to burns, promotes healing and prevents suppuration. Blumhardt has tried it, with great success, in three cases, one of them caused by explosion of gunpowder, and two by the ignition of spirits of wine, where the breast, neck, face, and hands were all severely scorched. Collodion was applied to the skin an hour and a half after the accident, by a hair-pencil; the redness, pain, and swelling, were thereby diminished, and the patients soon experienced no inconvenience save the tension occasioned by the firmly-adherent pellicle. The inflammation completely subsided, and the recovery was rapid. He considers the collodion to act beneficially in two ways; *first*, by affording a safe protective covering to the sensitive cutis, and *second*, by giving a uniform support to the part, and relieving the capillaries from all undue distension.

ART. 71.—*On the Revival of the Ancient Treatment of the Callous Ulcer by Excision of the Margin.* By Mr. HAINWORTH, late Surgeon to the Lincoln Dispensary, and City Gaol.

(*Medical Times and Gazette*, Jan. 21 and 28, 1854.)

In recommending the revival of this operation, which appears to have been the approved mode of treating the callous ulcer down to the close of the last century, Mr. Hainworth reviews the opinions entertained in ancient and modern days of the circumstances which occasion the acknowledged difficulty in the treatment of this form of ulcer, and endeavors to show that the primary obstacle to all successful treatment is the presence of a solid ring of compact and indurated effete cuticle, that the necessary preliminary curative measure is the removal of this ring, and that the safest, the mildest, and yet the most speedy and efficacious method of attaining this end is the excision of the callous margin, strictly confining this operation to the paring or shaving off the accumulated cuticle without wounding the cutis.

"For a practical knowledge of this operation," he proceeds, "I am happy to acknowledge my obligation to Mr. Hewson, one of the Surgeons of the Lincoln County Hospital, who told me, that he had acquired his familiarity with it from a house-surgeon of that institution, whose thirty years' tenure of office dated from the commencement of the current century.

"For the description and other remarks I alone am responsible.

"Since the foregoing remarks were penned, I have learned, with much satisfaction, that the plan has been fairly tested at St. Thomas's Hospital within the last few months. When visiting that institution, last spring, I mentioned the subject to Mr. South, who appeared surprised at the description given of the simplicity and painlessness of the operation, and expressed his willingness to give it a trial. The result of that trial has been most gratifying. Mr. South declares 'the success has been admirable.' He kindly requested Mr. Walter Tyrrell to furnish me with the notes of some cases, and accordingly I have been favored with the two following:—

David Brooks, æt. 30, laborer, was admitted into Henry's ward, St. Thomas's Hospital, August 14th, 1853. He has an ulcer on the right leg, consequent on an injury sustained ten years ago, since which time it has never entirely healed. He has lived very badly, being at times half starved. Has usually worked among the barges on the river, being often a considerable time in the water and mud. Numerous remedies were applied to the sore, with little or no effect, the hardened cuticle appearing to form a barrier to the cicatrization. At last Mr. South determined to try the effect of paring the edges of the ulcer. This was done several times, and the sore soon showed a healing margin. Before the sore was quite healed, this patient was discharged, in consequence of a deficiency of beds. He then became an out-patient, and then was again admitted into the hospital; but of his subsequent progress no notes were taken. There was no doubt of the benefit ensuing on the paring of the edges while he was in Henry's ward.

T. Driscoll, æt. 40, an Irish laborer, was admitted into George's ward, St. Thomas's Hospital, on Tuesday, Sept. 13, 1853. He has had, on the front of the right leg, an ulcer for the last sixteen years. It is now about the size of a man's hand; the edges are raised and callous, and the surrounding cuticle is much thickened; the surface of the sore is glassy, but at the edges are a few unhealthy granulations. He suffers little or no pain, unless from injury; the discharge is scanty, thin, and unhealthy. Mr. South directed the application of linseed poultice and the dilute nitric acid lotion. After a little time the granulations became more numerous and healthy, but the edges showed little inclination to heal, the white callous ridge remaining as on admission. About three weeks after admission, Mr. South directed the edges to be pared. Hardened cuticle, in many parts of some thickness, was removed; this was done with little or no pain to the patient and the bleeding was inconsiderable. In some parts, where the edges were not so hard, simple scrapings were required. At the end of a week a manifest improvement had taken place; a thin healing margin extended towards the centre of the sore; the same applications were continued. The paring process was repeated several times at intervals of about eight or ten days. As soon as the granulations rose to the level of the surrounding healthy parts, simple ointment and bandage were applied, the edges being now perfectly natural. The sore healed rapidly, and, when the patient left the hospital in December, was not larger than a half-crown. He afterwards attended as an out-patient, bandages being applied till the sore was entirely healed.

(C) CONCERNING DISEASE OF THE BLOODVESSELS.

ART. 72.—*Treatment of Aneurism by Compression.* By various Surgeons.

(*Medical Times and Gazette*, Oct. 29, and Nov. 5 and 12, 1853.)

Twenty-five cases of aneurism, recently treated in this manner, in various metropolitan and provincial hospitals, are here given—21 of this number being idiopathic (19 in the popliteal, 3 in the femoral, and 1 in the radial); and the remaining two, traumatic (one in the femoral, and the other in the anterior tibial).

Out of these 23 cases, compression succeeded in 14 cases, and failed in 9. Where the operation succeeded, the time occupied before the tumor became solidified was 3 days in 1 case, 4 days in 1, 8 days in 3, 11 days in 1, 15 days in 1, 21 days in 1, 31 days in 1, 6½ weeks in 1, 10 weeks in 2, 15 weeks in 1, and 23 weeks in 1. The failure of the operation was owing to pain and constitutional disturbance, or to œdema and erysipelas of the limb. Of these unsuccessful cases, the aneurism was seated in the popliteal artery in 6, in the femoral in 2, in the cardiac in 1. The ligature was resorted to in all these nine cases, and by its means six were cured. Of the remaining three, two died (one from suppuration of the sac and knee joint, the other from gangrene, consequent upon injury to the femoral vein during the operation), and the remaining one was unrelieved. This latter case was a traumatic aneurism of the femoral artery, and it presented several peculiarities which were unfavorable to the cure.

It must be observed, that in one of the cases which died, the limb had become

very edematous, in consequence of the previous employment of the compressor, and the patient had moreover suffered greatly from pain and want of rest.

The instrument employed was the one generally used in Dublin (Cartes'), either exclusively, or intermitted by the occasional employment of the pressure of the hand, or of a weight placed on the trunk of the artery.

The degree of suffering experienced by the patient was very variable; but in some it was very inconsiderable.

ART 73 — On the Treatment of Aneurism by Injections of Perchloride of Iron. By MM. VELPEAU, MALGAIGNE, and others.

(*Rév. Méd. Chir. de Paris*, Nov., Dec., 1853, and Jan., 1854.)

Since our former notices of this new mode of treating aneurism (vide *Abstract*, vol. xvii., and vol. xviii.), a paper has been read upon the subject before the Parisian Academy of Medicine by M. Malgaigne. In this paper, and in the subsequent discussions (which extended over three meetings of the Academy), all the facts bearing upon the question are canvassed, and the general impression appeared to be, that the operation ought not to be performed on man until its effect had been more clearly determined by experiments on the lower animals. M. Malgaigne is very hostile to the operation, and M. Roux thought its importance had been exaggerated, and that it was not to be compared to the several operations already in use for the treatment of aneurism.

Our readers must form their own opinion from the cases reported below, and from those reported in our former volumes.

1. *M. Serre's case.*—This was a case of aneurism of the brachial at the bend of the elbow. The case is not very explicitly related, but it appears that the sac inflamed and sloughed, that the slough separated, and the patient recovered. The inflammation was so violent that the vitality of the limb, and even the life of the patient was seriously endangered. The account of this case was published on the 9th of May.

2. —'s case.—This was the case of a mason, who had aneurism at the bend of the elbow, resulting from bleeding. The operation was performed by a former pupil of M. Malgaigne, whose name is not given. Five drops of the solution were injected by means of the graduated syringe of Pravaz, and then, pulsation still continuing, five other drops. Immediately the pulsation ceased in the tumor and at the wrist, violent pain seized upon the whole arm, the hand became cool and purple. The day following, the thumb was gangrenous. Forty-eight hours after the operation the gangrene had extended to the whole of the forearm, when the patient was placed under M. Malgaigne's care. Nine days later amputation was performed, but it was too late to save the patient, who died after a very slight attempt to rally.

3. *M. Velpeau's case.*—In this case the patient was a young man suffering, like the two former patients, from false aneurism at the bend of the elbow. The aneurism, which was as large as a hen's egg, had existed for three months. Eight drops of the solution were injected on the 21st of May, pressure having first been applied both above and below the tumor. The effect of the injection seemed to be the coagulation of the blood, but when the pressure was removed from the arterial trunk, pulsation returned both in the tumor and at the wrist. On the 11th of June, no change having taken place, the operation was repeated, and ten drops of the perchloride were injected into the sac. This, however, did not produce the intended results, and as the tumor went on increasing in size, and as signs of inflammation became evident, M. Velpeau abandoned the syringe, and tied the main artery in the middle of the upper arm. This was on the 14th of June, eight days afterwards one of the wounds made by the trocar for the passage of the injection opened, and gave exit to a considerable quantity of blackish fluid. A week later, this opening had become much larger, and a small quantity of dark detritus, mixed with pus, had passed through it, some blood oozing out at times. The day following, sufficient blood escaped to cause syncope. M. Velpeau then made a free opening into the sac, and introduced pledgets of lint which had been soaked in the solution of the perchloride; and

this treatment was successful. The patient left the hospital (la Charité), well, on the 4th of August.

4. *M. Lenoir's case.*—This was the case of a patient in the Hôpital Necker, suffering from popliteal aneurism of the size of a hen's egg. In the first instance twelve drops of the perchloride were injected, but without result. Twelve days later, sixteen drops were injected, and equally without result. Ascribing the failure to the fault of the solution, a solution prepared by M. Dubuisson, was procured. Of this solution six drops were injected on the 18th of June, and, finding the pulsation unabated, these were immediately followed by six other drops. On the 23d the patient began to suffer from rigors and pain in the ham, this pain ended in intense inflammation, and in five days the patient was dead. After death the sac of the aneurism was found to be filled with loosely adherent clot; some blood was effused in the neighboring textures, and the femoral vein was full of sanious fluid.

5. *M. Soulé's case.*—This, which was also a case of popliteal aneurism, was treated in the hospital at Bordeaux, on the 26th of July. Six drops were injected in the first instance, and, five days later, seven drops. Very severe inflammation set up in the aneurism, but the blood did not coagulate, and the end was, that M. Soulé tied the femoral, and the patient recovered.

6. *M. Jobert's case.*—This case is not yet published, but it is alluded to by M. Malgaigne as one in which the limb became gangrenous, and the patient died.

7. *M. Malgaigne's case.*—This was a case of false aneurism at the bend of the elbow, resulting from a cut by a piece of glass. The median nerve appears to have been divided in the accident, for there was complete loss of sensibility in the parts supplied by its filaments. Still the radial pulse was perceptible. This case was first treated by compression, and under this treatment the wound in the skin healed, but a pulsating and growing tumor formed at the seat of injury. Several weeks afterwards, when the sensibility had returned to the numbed parts, M. Malgaigne injected six drops of the perchloride solution. This was on the 14th of September. No change took place in the tumor. Four days later, violent pain began to be felt in the tumor, and contemporaneously with this event, the aneurismal pulsation become more obscure. Presently this pain subsided. A week later the violent pain returned, accompanied with a marked sense of tearing; the pulsation also returned, and the tumor became swollen and red. Thinking rupture of the sac about to happen, M. Malgaigne tied the humeral artery. After this the tumor underwent no diminution, but the active symptoms immediately subsided. On the 13th of October an incision was made into the tumor, and a large quantity of dark blood evacuated. Afterwards suppuration ensued, and a large clot was removed by the forceps. In the end the patient recovered.

8. *M. Vallette's case.*—This occurred in the Hôtel Dieu, of Lyons, on the 14th of July. It was, like several of the preceding cases, a small false aneurism, resulting from bleeding two months previously. Pressure having been applied above and below the sac, fifteen drops of the solution were injected. The operation excited considerable pain, and this continued more or less throughout the day. The pressure was continued for some time after the injection, that on the brachial for a full hour, and that on the forearm for about a quarter of that time. At the close of the day the fingers were cold, and pulsation could not be detected in the radial, and but feebly in the ulnar artery. The day following, the tumor was found to be firm and hard. From this time the tumor gradually disappeared, and when last seen the patient was well. Commenting upon this case, M. Vallette recommends that the degree of concentration of the solution of the perchloride should be 30° —that a sufficient quantity shall be injected (twelve to fifteen drops to one centimetre of blood)—that the injecting syringe should be well made, and that the blood operated upon should be isolated for some time from the rest of the circulating fluid, seeing that the coagulation produced is not instantaneous, all which points are clearly very important.

It appears, also, that some additional experiments have been performed upon horses by MM. Debout and Leblanc. The solution was injected into the zygo-

matic and external plantar arteries, and a few drops were found to be sufficient to coagulate the blood and obliterate the artery. Considerable febrile symptoms were excited, but no serious danger resulted from these experiments.

ART. 74.—On the Treatment of Varicose Veins by Injection of the Perchloride of Iron.
By (1) M. FOLLIN, and (2) M. DEGRANGES.

(*Edinburgh Monthly Journal*, Dec., 1853, and Jan., 1854.)

1. On the 12th of October last, M. Follin presented to the Parisian Chirurgical Society an individual in whom he had produced obliteration of the saphena vein by the method of M. Pravaz. The subject of the operation was a man 52 years of age, who had suffered for many years from a varicose ulcer of the right leg. The saphena was much dilated throughout the greater part of its extent. On the 12th of August, M. Follin injected the perchloride of iron into the vein at two points, one above, the other below the knee. Coagulation of the blood took place immediately, the vessel became obliterated, and the ulcer healed in eight days. Up to this time the cure has been permanent.

2. M. Degranges, of Lyons, has also published six cases of the same kind, in five of which the veins were obliterated without any particular accident having occurred, but in the sixth, inflammation came on, and the patient died.

ART. 75.—On the Treatment of Nævus by the Injection of Perchloride of Iron.
By Mr. COOPER FORSTER.

(*The Lancet*, Dec. 24, 1853.)

Mr. Forster has tried this mode of treatment in several cases, and, in his hands, the fluid injected has been found to produce simple coagulation of the blood, with little or no inflammation. There is some increase of size in the tumors, and a hard clot is formed, which is afterwards slowly absorbed, leaving the vascular tissue of the nævus quite obliterated. Two cases are related in which the cure is now complete; the others are all in progress.

CASE 1.—Thomas H—, æt. 1½. The nævus was of the mixed variety, situated over the left frontal eminence, and had previously been subjected to treatment by the application of nitric acid without success. It was increasing slowly in size, and was about as large as a florin, and considerably raised above the level of the surrounding skin. It was injected for the first time on October 2d; no incision was, however, made, and, from the imperfection of the instrument used, it was doubtful whether any of the solution was thrown in. No effects followed; and, on the 8th, the operation, according to the plan above described, was repeated. Probably from five to eight minims were thrown in. The tumor became hard and swollen, but no constitutional disturbance or local inflammation followed; and, within a month, the whole had disappeared, with the exception of a few small cutaneous vessels. For the cure of the latter, a pad of lead was laid over the part, secured by an elastic band, and worn for a week or two. The disease now appears to be perfectly destroyed.

CASE 2.—Louisa C—, æt. 11. The nævus was of the subcutaneous variety, situated on the right side of the neck, behind the border of the sterno-mastoid, and about the size of a small egg. Six years ago, it had been treated at an hospital by ligature; but it had subsequently enlarged to its original dimensions. On the 4th of November, the injection was practised. A free division of the diseased structure having been effected, about twenty minims of the solution were thrown in. As in the previous case, swelling and solidification were the only consequences, excepting that for three or four days afterwards the girl complained of some pain. There was no constitutional disturbance, and no inflammation in the surrounding parts. The induration has since gradually subsided, and is daily becoming less; it now feels of an almost stony hardness, and is about the size of a filbert. The tumor has quite lost its vascular character

ART. 76.—*On the Mode of Preparing the Solution of Perchloride of Iron used in Operations on the Bloodvessels.* By Dr. PARKES.

(*Medico.-Chir. Rev.*, April, 1853.)

“As it is possible that some of our readers may be disposed to experiment with this substance, in the treatment of vascular tumors, we may remind them that the strength of the solution used in France is regulated according to the degrees of Baumé’s hydrometer. Thus, a solution is said to be 45° or 33°, and so on. Now, a solution of 45° (Baumé), 55° Fahr., is of specific gravity 1.445; one of 30° is of specific gravity 1.26; one of 20° is of specific gravity 1.16; and one of 15° is of specific gravity 1.114. It has been shown by M. Burin du Buisson (*Bull. Gén. de Ther.*, t. xvi., p. 73), that to obtain a solution of 15°, it is not sufficient to add two parts of water to one of a solution at 45°, but it requires more than two and a half parts of water. He finds that 100 parts of the solution at 45° (specific gravity 1.455) contains 43 parts of perchloride of iron and 57 of water. Moreover, he states that a careful estimate of the strength of the several solutions gives this general result:—5 parts of the solution at 45° equals 10 parts at 30°, 15 parts at 20, and 20 parts at 15°—so that any given quantity of the solution at 45° may be easily converted into either of the other strengths.”

ART. 77.—*A Case of Aneurism treated by the Injection of a Solution of the Acetate of the Peroxide of Iron.* By M. LUSANNA.

(*Gaz. Hebd. de Paris*, Feb. 25, 1854.)

Acting upon a suggestion of M. Ruspini, who, after many experiments upon the effects of various coagulants, recommended a solution of the acetate of the peroxide of iron, as more efficacious and less irritating than the rest, M. Lusanna has operated upon a case of aneurism of the external maxillary artery, and reported the particulars to the Parisian Academy of Sciences.

CASE.—Marie Gelmi, æt. 22, has had for some time a growing and pulsating tumor in the substance of the left cheek, and midway between the corner of the mouth and the angle of the jaw, which tumor was clearly of an aneurismal character. The size was equal to that of a large nut. In operating upon this tumor, M. Lusanna first made an opening with a fine knife, and then injected about ten drops of a saturated solution of the salt in question, using a glass syringe for the purpose, and keeping his fingers upon the opening for some few minutes after the instrument was withdrawn. After this, it was found that the tumor had increased somewhat in size, and become firm and hard. The patient complained of pain at first, but this soon passed off. Subsequently some degree of puffiness made its appearance in the tissues surrounding the tumors, but the symptoms did not go on to inflammation. Indeed, the symptoms were so slight that the patient had no need to discontinue any of her daily duties. At the end of a week the œdema had passed off, and the tumor was sensibly diminishing at the time the account of the case was sent to the Academy.

Incidentally to this communication M. Lusanna states that the idea of treating aneurisms by the injection of coagulants had occurred some years ago to a celebrated Italian surgeon, Monteggia by name, who also recommended that the artery should be compressed above and below the sac during the operation; and a quotation is given from M. Monteggia’s *Istituzioni Chirurgiche*, t. ii., 2d edit., Milano, in corroboration of this statement.

(D) CONCERNING FRACTURES AND DISLOCATIONS.

ART. 78.—*A new Operation for Ununited Fracture.* By Mr. JORDAN, Surgeon to the Manchester Royal Infirmary.

(*Medical Times and Gazette*, Jan. 14, 1854.)

From a report by Mr. Windsor it appears that Mr. Jordan has lately performed a new operation, which he founded on the following experiments by Mr. Syme.

The first experiment consisted in exposing the radius of a dog, and in removing an inch and three-quarters of that bone along with the periosteum; and, in the other leg, removing a corresponding portion without the periosteum. In six weeks the cut extremities of the radius from which a portion had been taken together with the periosteum, had only extended towards one another in a conical form, with a great deficiency of bone between them, and in its place merely a small band of tough ligamentous texture. In the other, where the periosteum had been allowed to remain, there was a compact mass of bone, not only occupying the space left by the portion removed, but rather exceeding it.

CASE—George Dickens, æt. 55, an apparently healthy man, was admitted into the infirmary on the 7th Nov., 1853, with ununited fracture of the humerus. It was eight months since the accident, and five months after an unsuccessful attempt to procure union by Dieffenbach's method. On the 11th of Nov., Mr. Jordan operated in the following manner—first, he made an incision down to the fractured part; secondly, he separated the periosteum from the extremities of the bones; thirdly, he sawed off the ends of the bones, leaving the periosteum; and fourthly, he placed the ends of the bones in apposition, and replaced the periosteum. The result of the case is not given.

ART. 79.—*On the Treatment of Dislocations of the Extremities when associated with Fracture.* By (1) Mr HARGRAVES, President of the Royal College of Surgeons in Ireland, and (2) M. RICHER.

[*Dublin Quarterly Journal of Medicine*, Nov., 1853, (2) *Edinburgh Monthly Journal*, Dec., 1853, from the *Bull. de Thé.*, t. xiv., pp. 18-104.]

1 Mr. Hargraves's remarks are *apropos* of a case in which the right humerus was dislocated into the axilla, and fractured immediately above the condyles.

“William B., a painter, æt. 42, was admitted into the City of Dublin Hospital June 3d, 1853. He fell from a height of thirty-three feet, dislocated his right humerus high up into the axilla, fractured the same bone immediately above the condyles, and had most extensive contusion and sanguineous effusion of the leg and foot of the same side, the sole of which was so distended with effused fluids as to render the hollow of its arch almost obliterated. This appearance was well seen when the injured foot was contrasted with the sound one.

“He was a tall and powerfully-made man. On admission, he complained of intense pain about the shoulder and in the axilla, extending down the arm, fore-arm and to the little finger. The symptoms both of the luxation and fracture were well marked; an attempt made to coapt the last injury failed to accomplish it.

“The line of practice in this case consisted in applying splints and bandages on the unreduced fracture and arm; the lax and extending appliances were next arranged to the arm upon the splints and the bandages above the fracture; the scapula was then secured by a bandage, and confided to the care of assistants. Extension was now commenced and continued for some time, when the head of the bone was found to be dislodged from its situation, and was soon restored to its natural cavity. Contemporaneous with the reduction being effected, all pain of the shoulder, axilla, arm, fore-arm, and little finger ceased, and I was agreeably surprised to experience the greatest facility in setting the fracture and maintaining it in its proper situation, though prior to the reduction of the humerus it could not be brought into its natural position, principally from the action of the triceps extensor muscle.

“The subsequent treatment consisted in measures to relieve the effects of the contusion and to expedite the absorption of the effused blood. He was discharged from hospital July 7th, with the motions of the fore-arm perfect for every useful purpose.”

“It has been generally taught in complicated injuries of this kind now detailed, and laid down by Petit, to allow the fracture to unite before the attempt at reduction of the luxation was made, and then to undertake the reduction. Such a proceeding, however, is not the most eligible. From the success of this

case, also of one under the care of my former colleague, Mr. Orr, in this hospital, and a few reported in different medical journals, the rule should be, in the first instance to arrange the fracture in a temporary manner, and then endeavor to reduce the dislocation, which can be much facilitated by placing the patient under the influence of chloroform. If the reduction succeeds, the case is thus rendered more simple, and more likely to terminate favorably; but should the attempt thus made fail, the surgeon has then nothing to tax himself with, and must meet this complication in the most skilful way he can, always forewarning his patient of the extreme complexity of his case, and of the doubtful issue of the accident.

"If the contrary practice is followed, viz., first attending to the fracture, allowing it to unite, and then attempting the reduction of the dislocation, we have to encounter what may be considered an old unreduced luxation, and may be baffled in our efforts, or perhaps add to the complication by unintentionally re-fracturing the bone. In this special case such was the intensity of the pain the man experienced from the effects of pressure upon the brachial plexus, that the reduction of the luxation was imperiously required.

"Sir Astley Cooper was the first surgeon to advise the endeavor to reduce the luxation and then attend to the fracture; I might add, from theory, as in his treatise on *Dislocations and Fractures*, this precept is not supported by any case, while every other rule of practice in it is supported by reference to cases. This patient called on me on the 6th of August last, when he had recovered the perfect power of extending and flexing his fore-arm."

2. M. Richet relates, in great detail, the case of a man, æt. 68, in whom a dislocation of the upper end of the humerus was complicated with fracture of the anatomical neck of the bone. Four days after the occurrence of the accident, he was placed under the influence of chloroform, and the reduction of the dislocation was easily effected by pressing backwards the head of the bone, without any traction being resorted to. The fracture was afterwards adjusted and consolidated; and when the patient was seen a year after, he had recovered the complete use of his limb.

M. Richet reviews the opinions of the classic writers, who agree in pronouncing the impossibility of reducing a dislocation of the humerus or femur, until after the fracture complicating it has become united. He shows the great power chloroform confers upon us in these cases, by the complete relaxation of the muscular resistance it produces, and the care with which the head of the bone may, by due manipulation, be forced back into its socket. He thinks the passive obstruction offered by the fibrous tissues of the parts has been exaggerated and ill-understood. In numerous autopsies he has made after recent dislocations, produced accidentally or experimentally, he has always found the aperture in the capsule broad and irregular, and in no condition to offer an obstacle to reduction. He does not deny that such obstacles may occasionally be offered by the fibrous structures, independently of the aperture of the capsule: but he maintains, from clinical and experimental observation, that such obstacles are much more easily overcome by pressing the head backwards than by the usual practice of traction of the limb, which, indeed, only aggravates them. By the aid of chloroform, he believes a dislocation of the humerus into the axilla may thus always be reduced by pressing the head directly backwards. In several experiments that he has made in which the head of the femur has been dislocated, and the bone then sawn through just below it, so as to stimulate dislocation complicated by fracture, the reduction has also been easily effected by direct pressure.

ART. 80.—*On a New Mode of producing Extension in Fractures.*
By DR. CROSBY.

(*American Quarterly Journal of Medicine*, Jan., 1853.)

Dr. Crosby proposes to keep up continuous extension in fractures of the leg, where such extension is necessary, by applying long broad bands of adhesive plaster along the length of the limb, and by attaching the free ends of

these bands to the apparatus in which the limb is fixed, and by which extension is made.

ART. 81.—*On Felt Splints.* By Dr. F. H. HAMILTON.

(*Buffalo Medical Journal*; and *New York Journal of Medicine*, Sept., 1853.)

"Some years ago," writes Dr. Hamilton, "I think 1845, felt splints were brought to me by an agent of the manufacturer. The felt was sold in sheets, and also in pieces, modelled so as to be readily adapted to the form of the limbs. In some respects it was superior to gutta percha, and I am inclined to think that on the whole it was the best splint ever used. I cannot learn that these splints are now manufactured in any part of the United States, and I will therefore inclose you the recipe for making them, which was kindly given me by the agent, and which I have frequently used myself: Dissolve three pounds of gum shellac in two quarts of alcohol. It should be dissolved in a tin vessel, furnished with a tight cover to prevent evaporation. Spread a piece of old or new woollen cloth on a board, and with a clean brush saturate both sides of the cloth with the solution. Hang it up until it is thoroughly dried. Lay it again upon the board, and apply a second coat of the solution to one side only of the cloth. Dry again, and apply a third coat to the same side. There will now be three successive layers upon one side and one on the opposite. While the last coat is yet fresh, fold the cloth so that the side having three coats shall be applied to itself. Now, with a hot flat-iron, smooth and press the surfaces together. When it is cold, a slight rubbing with sand-paper makes it fit for use. It becomes a firm, almost unyielding board, but exposure to a moderate heat will make it pliant, so that it can easily and accurately be adapted to any surface."

ART. 82.—*On Caries and Necrosis of Bone, in reference to the Treatment of Diseased Joints.* By Mr. GAY.

(*Medical Times and Gazette*, March 11, 1854.)

In this paper Mr. Gay makes the following deductions: that necrosis of a bone is analogous to mortification, and caries to ulceration, in the soft structures. That the former affects the compact, while the latter affects almost exclusively the cancellous tissue of bone; but that, by a morphological process, the compact structure might be converted into a texture in all respects resembling the cancellous, and, under such circumstances, might be attacked by caries. That the separation of fragments or larger portions of bone from their living connections is not by the same process in the two affections; and that the term "necrosis" is not applicable to carious disintegration. That caries is either the result of local irritation or of constitutional vice or disease, or of both combined, and that the obstinacy of individual cases will in a great degree be determined by the nature of the predisposing and immediate causes of each respectively. That in cases of purely local caries, the removal of the exciting cause and other appropriate treatment will often induce moderately speedy reparation; whereas, in the constitutional forms, the affection will be obstinate in proportion to the severity of the systemic vice, and the degree to which the system is imbued with it, the cancerous and strumous diathesis determining the most inveterate forms. That the treatment of caries must have respect to the particular cause in each case; and therefore be constitutional as well as local. That among the local remedies those might be enumerated which have the effect of favoring the extrusion of the diseased bone from the joint, or ulcer; and the constitutional, those which have the power of invigorating the general health. Among the former, the use of concentrated mineral acids, of the acid nitrate of mercury, the nitrate of silver, caustic potass, red oxide of mercury, iodine, the actual cautery, and deep incisions into the diseased bone, with the separation (by means of the gouge) of all that might appear to be in any way affected, had been recommended. Of these, Mr. Gay preferred the free incisions, in accordance with the views which he had before promulgated. Among the latter, cod-liver oil,

iodine, iron, &c., &c., but especially warm clothing, wholesome food, and fresh air. With respect to the use of local remedies, it is now apparent why incising carious bone, and joints the bony constituents of which are carious, is not, in many cases, immediately followed by any very marked advantage; but the value of the treatment is not gainsaid by negative results. Such treatment is well adapted to expedite the recovery, and to aid the effects of such constitutional treatment as may be contemporaneously adopted. "Patience" must be the byword in the management of carious bones; and the more severe remedies of excision or amputation ought to be delayed until evidences are obtained of the disease being absolutely intractable, and that beneath its influence life itself is exposed to hazard. Boyhood with a carious joint is to be preferred to manhood with the mutilation or loss of a limb.

ART. 83.—*Case of Mollities Ossium preceded by Degeneration of the Muscles.* By THOMAS K. CHAMBERS, M.D., Physician to St. Mary's Hospital.

(*The Lancet*, March 25, 1854.)

The case was that of a young woman, twenty-six years of age, admitted into St. Mary's Hospital in March, 1853. She had never been able to follow any calling on account of weak health. The principal features of the case, in the early stage, consisted in defective muscular power, the flesh of the body feeling exceedingly soft and flabby, the calf hanging down flaccid and baggy. During her residence at St. Mary's, the bones of the back and limbs were examined several times without any deviation from the natural state being discovered. Spontaneous fracture first of one femur and afterwards of the other, occurred at St. George's Hospital; and subsequently, very remarkable changes in the osseous structures took place. Thus, in April 1853, the right arm became painful to the touch, and paralytic; in May, the same misfortune happened to the left upper extremity; in June, the pelvic arch gave way; in July, the ribs on the right side fell in, and she began to suffer much from dyspnœa and cough; in August, the bones of both arms were quite soft; towards the end of October, the distortion of the lower parts of the trunk was so great, that the feces could not naturally be expelled. She died in November. The bones throughout the whole system were found soft and unresisting, and a sharp instrument could be readily passed through them. A section of the tibia was of the color of muscle, and presented to the knife scarcely more resistance than brain, its shape being retained by the aid of the tough periosteum. The microscope exhibited the bone as consisting of large fat vesicles, some containing a white, others a reddish oil. The parts next the periosteum, which felt gritty, presented, when examined under a quarter-inch glass, small islands of opaque bone, the bone-corpuscles being indistinct, and the canaliculi not to be discovered. The addition of hydrochloric acid caused a slight disengagement of gas. The muscular fibre presented everywhere the characteristics of granular degeneration. The account concludes by an enumeration of the points of the case most worthy of attention:—

1. The portrait which was afforded of an early stage of the disease, a stage at which it was rarely the subject of observation.

2. The impression produced by it—viz., that the degeneration of the bones was preceded by that of the muscles, and that the degeneration of the two tissues was dependent on the same crasis; and the probability therefore was, that such was the history of analogous cases.

3. The fact that the degeneration was least advanced in the external circumference of the bone.

4. The formation of perfect fat vesicles in both bone and muscle.

ART. 84.—*On the Union of Tendons which have been divided for some time.* By (1) M. SEDILLOT, of Strasbourg; (2) the late Prof. ROUX; and (3) M. JULES GUERIN.

(*Gaz. Méd. de Paris*, Nov. 5 1853.)

An interesting case in which this union was successfully accomplished was brought before the Parisian Academy of Sciences in October last by M. Sedillot.

M Sedillot's Case.—The patient was a soldier, who had lost the power of extending his little and ring fingers in consequence of a sabre cut across the inferior third of the dorsal surface of the right fore-arm. This accident occurred on the 13th of December, 1852. The wound healed almost immediately, but the hand was still disabled. Having been put under the influence of chloroform, M Sedillot cut down upon the divided tendons (which were in this case a single tendon), and found the ends at a considerable distance apart. He then separated all newly-formed adhesions, pared the ends of the tendons, and, having brought them in contact by bending back the hand as far as possible, he connected them by a single suture, the end of which was brought out of the wound. The hand was then fixed in the same position, and the parts kept in contact as far as possible by a few turns of a bandage. The night following the operation was somewhat restless: there was a little œdema about the wound, and there was some thirst. Six days later the suture came away from the tendon, and what little inflammatory disturbance had existed in the mean time had subsided. From this time the wound healed rapidly, and after a very short delay the patient recovered the use of his fingers, and was able to resume his military duties.

Commenting upon this case, the late M Roux related a similar case by M. Petit of Lyons (*Maladie du Cœur*, p. 320, Lyons, 1806), another by M. Dutre (Méd. Operat., Paris, 1816), and a third by himself. A case was also mentioned in which Mr Syme had operated successfully upon a tendo Achillis which had been divided for upwards of five months.

M Petit's Case.—M. de Priancon had long lost the use of the index finger of his right hand, in consequence of a wound which had divided its extensor tendon. Hearing of a case in which a tendon recently divided had been reunited by suture, this gentleman requested M. Petit to perform a similar operation upon him. M. Petit objected at first, but in the end he cut down and exposed the divided tendon, the ends of which were rounded and tuberculous, and a couple of inches apart. He then pared the ends, and brought them together by a suture, and by fixing the finger in a proper position by means of bandages. Twenty-five days afterwards the wound had healed, and the finger had recovered its power of extension.

M Dutre's Case.—This is not given in detail, but a hand appears to have long lost the power of extending its fingers, in consequence of a wound across the extensor tendons. M. Dutre cut out the cicatrix by an elliptical incision, and brought the edges of the wound together by suture, and by fixing the hand in a proper position, and in the end the tendons reunited, and the patient recovered the use of his hand.

M Roux's Case.—This occurred more than twenty-five years ago. The patient's name was Ruffe, an Italian by birth, and a pianist and musical composer of some celebrity. He had lost the power of extending the middle finger of the right hand two years previously, in consequence of the division of its extensor tendon by a fragment of glass, and he had been altogether incapacitated from playing for the whole of this time. M. Roux repeated the operation of M. Petit, and having exposed and pared the ends of the divided tendon, which were a full finger-breadth apart, he united them by means of a suture. This suture came away on the seventeenth day. The cure was perfect, and before long M. Ruffe was able to play as brilliantly as ever.

M Syme's Case.—This was the case of a young man who had wounded himself with a sickle five months previously, and divided the tendo Achillis of one of his legs. Mr Syme exposed the divided tendon, pared the ends, connected them with two sutures, and then put the limb up in one of J. L. Petit's apparatuses for rupture of the tendo Achillis. Six weeks afterwards the patient was completely well.

M. Jules Guérin makes the preceding facts the subject of a leading article in the *Gazette Médicale de Paris*, and he takes the occasion of stating that he has reunited the divided ends of a muscle of the eyeball, after an unsuccessful operation of squinting, in not less than forty-two instances. He did not employ sutures in these cases, and he thinks they might have been dispensed with in the cases which have just been related.

(F) CONCERNING OPERATIONS.

ART. 85.—*A new Vaccine-Scarificator.* By Prof. DRYER, of Copenhagen.

(*Edinburgh Monthly Journal*, May, 1854.)

This instrument was exhibited by Dr. J. Struthers at a recent meeting of the Edinburgh Obstetrical Society. In form it resembles the iron pen, with two legs and screw for regulating their distance, commonly contained in cases of philosophical instruments; but the extremities of the legs, instead of being pointed, are broad and sharp, similar to those of the double knife of Valentin. The advantages of the instrument are—1st, that the scarification and vaccination are effected by a single application; and 2d, that many persons (as many as twenty or thirty) may be vaccinated in succession without recharging the instrument,—a sufficient quantity of lymph being held between the blades for this purpose. This instrument is used very extensively in Denmark, where the practice of re-vaccination is very general.

(G) CONCERNING ANÆSTHETICS.

ART. 86.—*Rules for the Administration of Chloroform.*

By M. ROBERT, Surgeon to the Hôpital Beaujon.

(*Bull. Gén. de Thérap.*, vol. ii., 1853 and *Dublin Quarterly Journal*, Feb. 1854.)

1. Chloroform may cause death when it is mixed in too great proportion with air.
2. But it may also, in consequence of idiosyncrasy, produce serious accidents and death, even where it has been administered in trifling doses.
3. Asphyxia is not to be apprehended as a result of the employment of chloroform, unless the method of inhalation adopted be defective or the state of the respiration be not duly attended to.
4. Chloroform predisposes to syncope, and renders the latter, when it occurs, more serious.
5. In cases in which death takes place exceptionally, it occurs by syncope. The cessation of the action of the heart is sometimes so sudden, that it constitutes a true sideration.
6. Syncope may occur at the very commencement of the operation, and in that case seems to result from the shock given to the system by the operative act itself. It may appear immediately, or several hours after the operation.
7. Anæsthetics are all more or less poisons. Chloroform is the most dangerous, but it is also the most powerful. Ether is less formidable, but less energetic. A mixture of equal volumes of ether and chloroform appears to me to be the best anæsthetic; it produces insensibility quickly, and seems to excite less reaction than chloroform or ether.
8. Before having recourse to the employment of chloroform, its contra-indications, whether for rejecting anæsthesia or for modifying its application, should be sought for.
9. When chloroform is administered, it is important to watch attentively the state both of the pulse and of the respiration.
10. The danger of chloroform being, in general, proportional to the concentration of its vapors, it would be useful to be able to regulate this; but, as the inhalation must be made with free access of air, this regulation is impossible. It is, therefore, expedient to begin with very small proportions, which may be gradually increased according to the effects produced.
11. The action of chloroform being progressive and successive, we obtain insensibility by continuing uninterruptedly the inhalation of moderate doses, without its being necessary to increase the latter.
12. Having obtained the state-called anæsthetic tolerance, we may prolong the condition for a longer or shorter time, provided we intermit the inhalation.
13. When, for any reason, the patient has been obliged to consume a large quantity of chloroform, we must guard against consecutive attacks of syncope.

14. In cases of severe syncope or sideration, it will be advisable to have recourse to the following means :

1. To expose the patient to a cool and pure atmosphere.
2. To give the body such a position that the head may be dependent.
3. To open the mouth and draw the tongue forward.
4. To practise artificial respiration by duly-timed pressure (*par des pressions cadencées*) on the thorax and abdomen.
5. Excitement of the skin by frictions, rubefacients, &c., may be subsidiarily employed.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 87.—*On the Questionable Propriety of Trephining for Intracranial Suppuration.*
By Mr. PRESCOTT HEWITT, Assistant-Surgeon to St. George's Hospital.

(*Medico-Chir. Trans.*, vol. xxxvi., 1853.)

The following important remarks occur in an "Analysis of the cases of injuries of the head, examined after death in St. George's Hospital, between Jan., 1841, and Jan., 1851."

"Suppuration between the bone and the dura-mater appears not only to have been much more frequent, but also very much more commonly confined altogether to this situation formerly than it is in the present day.

"In the second section of 'Injuries of the Head,' Pott gives twelve cases of scalp-wound followed by subsequent mischief beneath the bone, in seven of which the suppuration was altogether confined to the outer surface of the dura-mater. In the various cases which I have noticed of this affection, I have never seen a single instance in which the suppurative inflammation was thus limited; in every case which I have examined, inflammation has at the same time existed beneath the dura-mater. It cannot be said that this very marked difference depends upon the amount of inflammation, or the quantity of matter thrown out, for in several of Pott's cases not only was the quantity of matter thus situated very large, so large indeed that it was thought impossible for the patients to recover, but the inflammatory process had been going on for some days, as shown by the symptoms and the quantity of matter evacuated from the spot where the trephine was applied; whereas, in several of the cases which I have noticed, although the extent of the mischief between the bone and the dura-mater has been comparatively trifling, still the diffuse inflammation beneath the membrane has been most extensive. In every one of the eight cases of suppuration between the bone and the dura-mater occurring in this decennium, puriform effusion was found within the cavity of the arachnoid, and appeared to have spread from the external to the internal parts. That this difference does not depend upon locality is evinced by the results of similar cases in different places and in different countries.

"Suppuration between the bone and the dura-mater naturally leads to a practical question of the utmost importance, I mean the application of the trephine. Formerly, and especially in Pott's hands, it appears in such cases to have been one of the most successful operations. Mischief was suspected under the bone, the trephine was applied, matter was found, in some cases in large quantities, and evacuated, and the patients recovered without any further difficulty. Such is the history of several of Pott's cases; but, unfortunately, we have met with no such success. It has never yet fallen to my lot to see a single instance in which the application of the trephine has, under such circumstances, had a successful issue. In every case in which I have seen the operation performed, the patient, notwithstanding the evacuation of the matter, has died of diffuse inflammation of the membranes. Still, notwithstanding that our efforts have been so unsuccessful, we do not hesitate, whenever the various symptoms lead to the

diagnosis of matter between the bone and the dura-mater, to apply the trephine, and we give the patient the only chance, however small that may be, of recovery; but, on the other hand, we consider the application of the trephine altogether useless in cases of intra-cranial suppuration, where the symptoms are those of acute inflammation of a diffuse kind, in which the signs of compression are generally but slightly marked.

“Of the eight cases of suppuration between the bone and the dura-mater without fracture, noted in this decennium, five were not operated upon, and three were trephined. In the first class, in which no operation was performed, the symptoms of compression were either but very slightly marked, or altogether absent.

* * * * *

“Purulent infection was observed in fourteen out of the twenty-three fatal cases of scalp-wound, and, although developed in other injuries, in none is it more frequently so than in those of the head, and that, too, in cases where the injury has apparently been of a trivial nature. The well-known fact that this disease is found especially in injuries involving the osseous system, will serve to explain the frequency of the development of this most formidable complication in accidents about the head, where the bones are not only abundantly supplied with cancellous tissue, but where are also found venous canals much larger and much more numerous than in any other part of the skeleton. That no cases of this kind should have fallen under Pott’s notice is surprising, and the more so, as Desault and others were at about the same period directing the attention of surgeons to this affection, as one of the most common consequences of injuries of the head.

“It has been thought by some foreign pathologists, that the early application of the trephine made by Pott and other surgeons, in cases of exposed and contused bone, might, in some measure, serve to explain why these practitioners had not met with more cases of purulent infection in injuries of the head. M. Chassaignac especially thinks, that the removal by the trephine of the contused bone before suppuration has taken place in its diploë, destroys the source from whence the secondary mischief is for the most part derived; but such an explanation can scarcely be admitted as a valid one; for in how many cases of purulent infection after amputation do we not find extensive suppuration in the cancellous tissue of the bone?—cases in which there had been no injury, and in which suppurative inflammation did not exist in the bone previous to the removal of the limb.

ART. 88.—*On Xerophthalmia.* By Mr. TAYLOR, Surgeon to the Central London Ophthalmic Hospital.

(*Edinburgh Medical and Surgical Journal*, Jan., 1854.)

Mr. Taylor relates three cases of this rare disease, and gives a resumé of the state of our knowledge respecting it, which we recommend to the attention of those of our readers who are especially interested in diseases of the eye. Xerophthalmia, in Mr. Taylor’s opinion, is the effect of chronic inflammation.

“We find invariably,” he writes, “that there has been long-continued or often-repeated inflammation, which in some instances has been altogether disregarded, in others aggravated by entropium or trichiasis, or by the injudicious use of powerful escharotics or stimulants. After a certain time this is followed by unnatural dryness of the eye, which may be traced partly to closure of the lachrymal ducts, and partly to disorganization of the conjunctiva, rendered sufficiently manifest by its altered appearance. The next and most remarkable feature of the disease, is the gradual shrinking and final disappearance of the palpebral sinuses; and the manner in which this is effected seems to afford a key to the explanation of its pathology. If we look at a case in its most advanced stage, we see nothing which would lead us to suppose that the adhesion of the eyelids to the globe had not taken place in the usual manner, by the contraction of new material poured out to repair loss of substance, as after a wound or burn, or by the union of opposite granulating surfaces, as might happen after extensive

idiopathic ulceration. But if we watch the change from time to time during its progress, we see that no loss of substance, no breach of surface, has taken place. The sinuses slowly diminish in depth without union of their opposing surface, until they have totally disappeared, and the conjunctiva, instead of forming a deep reduplication, is continued directly from the margin of the eyelids over the surface of the eye, shrinking at the same time in every direction, flattening out the plaits which it had at first formed around the margin of the cornea, diminishing the transverse diameter of the palpebral fissure, and applying itself tightly over the surface, so as to bind the eyeball and eyelids into one solid and nearly immovable mass. The cornea alone, though partially concealed by the upper eyelid, remains free to its margin, where the conjunctiva, with the exception of its epithelial covering, terminates; in those cases alone in which there has been ulceration of its surface, as in the case of Scott, does it adhere to the opposing surface of the eyelid. I think that we are warranted in inferring the nature of the process by which this destruction and gradual contraction of the conjunctiva is effected from analogous changes in other organs, where they have been more carefully watched. In the kidney, for example, certain forms of chronic inflammation are attended with the exudation of lymph, by which, as well as by the impaired nutrition consequent upon its morbid condition, its proper structures are destroyed, and as the organization of the new material proceeds, the gland shrinks into a solid and structureless mass. Such, in all probability, is the process in this peculiar inflammation of the conjunctiva; its structures are infiltrated with inflammatory exudation, its secretory apparatus is destroyed, and the gradual contraction of the new material as its organization advances, is sufficient to account for the various changes by which the disease, in all its phases, is characterized."

CASE 1.—George Conway, æt. 25, was admitted an out-patient to the Central London Ophthalmic Hospital, Feb. 7th, 1852.

Sixteen years ago he lost the left eye from small-pox, and has ever since suffered so much pain and irritation in the other, that it has been of little use to him, though he could see sufficiently to walk about without assistance. Two years ago he was persuaded to put himself under the care of an empiric, who used some powerful irritant application to the eye. This caused excessive pain, and the sight got rapidly worse, so that within a week he became almost totally blind.

In the right eye the cilia, which were remarkably strong and bushy, were in contact with the globe along the whole extent of both lids, partly from trichiasis, and partly from slight entropium. The eye looked like that of a dead animal after exposure to the sun. The cornea was dry, devoid of lustre and transparency, and covered with particles of dust and dirt, especially in the line of junction of the lids; the situation of the pupil could with difficulty be made out, but the iris could not be seen. The conjunctiva was dry and parchment-like, and was traversed by several large tortuous vessels; round the outer margin of the cornea, it was thrown into several prominent wrinkles or plaits, which were flattened or deepened according as the eye was turned inwards or outwards. The palpebral sinuses were slightly diminished in depth, and contained a little moisture; their lining membrane was smooth, and covered with bluish marks like cicatrices. The situation of the lachrymal puncta was visible, but they were not pervious. The movements of the eye and of the lids were tolerably free, but were performed with a feeling of stiffness and restraint. The eye felt hot and dry, and he had frequent paroxysms of acute pain, which destroyed his rest, and rendered him anxious to submit to any treatment that would give him relief. The sensibility of the surface of the eye was much impaired; it could be freely touched without causing him any inconvenience. He could dimly discern the outline of a large object, such as the human figure, at the distance of a yard; but he could not distinguish a male from a female.

The left eye was shrunken and atrophied, and its conjunctiva dry and shrivelled, as in the right eye.

I performed Mr. Walton's operation for entropium upon both lids, with the effect of removing the cilia from contact with the globe, with the exception of a few which were very much displaced; these were subsequently got rid of by

inoculation with tartar emetic, as recommended by Dr. Hunter (*Med.-Chirurg. Review*, July, 1841). At the same time, he was directed to keep the eye constantly moist, by applying a drop of glycerine as often as necessary. With the removal of the entropium, the pain at once and permanently ceased; the sight, also, was considerably improved within a few days after he commenced to use the glycerine, partly from the removal of the dirt with which the cornea had been covered, and partly from the degree of transparency which it communicated to the epithelium. It could now be ascertained that there was some slight superficial opacity of the cornea proper, induced, doubtless, by the friction of the inverted cilia; this gradually cleared away, until, at the end of three months, the color and texture of the iris were distinctly visible, and his sight was so much improved, that he could distinguish a pen lying on the table at the distance of four feet. He now abruptly ceased his attendance, and discontinued the use of the glycerine; he was not seen for some months afterwards, when the eye had again become dry and opaque, and he could merely distinguish light from darkness.

CASE 2.—John Scott, æt. 65, applied at the hospital, April 25th, 1853.

About five years ago he had an attack of "cold in the eyes," from which, owing to neglect, he still suffered at the expiration of five months. He was then admitted as an out-patient at an hospital, where a strong solution of nitrate of silver was dropped into the eye three times a week; each application caused acute pain, which lasted the whole day, unless he could succeed in getting a few hours' sleep. This treatment was continued for several months, during which his sight got gradually worse; and eventually, when he ceased his attendance at the hospital, he was totally blind. He subsequently applied to several surgeons, some of whom again made use of stimulating applications without benefit.

In both eyes the palpebral sinuses are completely obliterated, and the eyeball and eyelids consolidated into one mass, the margin of the upper lid being on a level with the upper third of the cornea, that of the lower jaw just reaching its lower border. The part of the cornea thus covered is not adherent to the lid, which can be pulled forwards from it by means of the cilia, so that a probe can be passed completely round its margin. The membrane is perfectly dry, and of a dirty white color, resembling the dried cuticle which had been detached by a blister; it is not thrown into plaits around the cornea, as in the last case; on the contrary, it seems to be drawn tightly over the surface of the eye, diminishing the transverse fissure of the lids, and preventing motion, except to a very limited extent. The left cornea is dry, dead-looking, covered with adherent dust and dirt, and so opaque that the situation of the pupil cannot be made out, even when the light is concentrated upon it through a lens. The right cornea is of a uniform dull red color from minute vascular ejection, and has a pulpy villous appearance, speckled here and there with small ulcers. The situation of the puncta is visible, but they are not pervious. There is neither entropium nor trichiasis; the cilia, which are numerous and strong, as well as the margin of the lids, preserving a perfectly natural direction. By a strong muscular effort, the cutaneous surfaces of the lids can be brought into contact, but farther than this they are almost immovable. The eyes feel dry, stiff, and uncomfortable, and occasionally he has pain of a burning character, but seldom very severe. The sensibility of the surface is not greater than that of the palm of the hand. He can merely distinguish between light and darkness.

The treatment consisted in keeping the eyes constantly moist with glycerine. The ulcerated cornea soon healed up, and became covered with a dense bluish cicatrix, which adhered to the lid. The left cornea has improved somewhat in transparency; the situation of the pupil can be made out without difficulty, and through one small spot near the margin, the color of the iris is visible. In a good light he can see the outline of the human figure, but not distinctly. The eyes feel much more comfortable, and he has been entirely free from pain since the glycerine has been applied.

CASE 3.—George Ling, æt. 73, was admitted as an out-patient, April 20th, 1853.

Twenty years ago he suffered much from inflammation of the eyes, which he

attributes to excessive weeping, having met with severe domestic misfortunes; he had constant pain, and after a time they began to feel dry and hot, and the sight became dim. He applied to a surgeon, by whom he was cupped and leeches, a strong solution of caustic was dropped into the eyes, and sulphate of copper was rubbed upon the lids. These applications, which were continued for some time, caused excessive pain. He asserts that the sight was completely destroyed by the first employment of the caustic solution; this may be an exaggeration, but it is certain that it disappeared very rapidly, leaving him merely the power of distinguishing light from darkness. Six years ago, after having had a great variety of advice, and having tried many remedies without relief, he was accosted in the streets by a surgeon, who told him that the cause of his blindness was inversion of the lids, and persuaded him to submit to an operation. This appears to have consisted in splitting up the upper lids, and probably removing a large portion of skin, as the lids were so much shortened that they could no longer be closed; the corneæ were thus permanently exposed to the air, and his sufferings were very much increased.

Both upper lids are much shortened and disfigured by the operation, and their edges are studded with small, fine cilia, some of which are in contact with the globe. The palpebral sinuses are completely obliterated, not the slightest fold or indentation marking the spot where they formerly existed; the lids thus appear continuous with the surface of the eye, their edges are rounded off, and present no traces of Meibomian glands or puncta lachrymalia, and the transition between the skin and the altered mucous membrane is imperceptible. The surface of the eye is perfectly dry, and of a dirty-white color, but there is no adherent dust. The conjunctiva appears to be converted into a thick, opaque cuticle, not thrown into folds at the margin of the cornea, but apparently prolonged over it, so that its boundary cannot be seen. Towards the centre of the cornea this covering is rather less dense, so that by concentrating the light upon it by means of a lens, one or two large vessels can be distinctly seen deep in the substance of the cornea proper; on the other parts of the eye it has exactly the appearance of the cuticle detached by a blister on a part where the skin is thick, as on the palm of the hand. The lids do not adhere to the corneæ, the fissure made by the operation being attached round their upper borders, while the remainder of the lid is on a level with their upper thirds. The surface of the eyes is devoid of sensibility, and may be touched with as much freedom as any other part of the body. The movements of the eye are very much limited, and are accompanied with a most distressing sensation of stiffness and restraint. He has frequent and severe paroxysms of burning pain, and is never free from uneasiness. Vision, except the power of distinguishing light from darkness, is extinct.

As the condition of the lids precludes the possibility of any operation for the removal of the trichiasis, and as the displaced cilia are few in number, and very weak, it has been deemed sufficient to extract them from time to time with the forceps. For the rest, the treatment has been limited to keeping the eyes constantly moist with glycerine, which has afforded him more comfort than he has enjoyed for many years. The pain, though it occasionally recurs, is much less severe, and the softening of the shrivelled conjunctiva permits greater freedom of motion, and diminishes the feeling of stiffness and restraint. Little improvement has taken place in the transparency of the cornea, nor is it probable, from the density of the cuticle with which it is covered, that much can ever be effected.

ART. 89.—*Pathological Remarks on the kind of Palpebral Tumor, usually called in England Tarsal Tumor.* By Mr. HAYNES WALTON, Surgeon to the Central London Ophthalmic Hospital, &c., &c.

(*Medical Times and Gazette*, Feb. 4, 1854.)

After pointing out the very obscure manner in which the subject of tumors of the ocular appendages is treated by writers, the author gives a description of the external characteristics of such tumors, and proceeds to describe the intimate structure of one that he had removed from the living body. It consisted, externally, of a dense fibrous cyst, continuous with the fibrous tissue of the lid;

within this was a layer of fibro-plastic matter, soft, pink, and very vascular, composed of fibro-plastic cells, with very little intercellular matter; within this, a thin pellucid cyst, containing a puriform fluid, with epithelial cells, loaded with oil, and in the centre a perfectly round pellet of sebaceous matter. In conclusion, the author suggests the following order of development: 1st. The formation within a Meibomian follicle of a pellet of hard sebaceous matter. 2d. The secretion of a more copious epithelium and fluid matter around. 3d. The addition of fibro-plastic matter around the obstructed gland follicle, distending the loculus of fibrous membrane into a cyst. This, with frequent dissections of other tumors, were illustrated by accurate drawings. The author suggested the name of Meibomian tumor as appropriate. In a postscript to his paper, Mr. Walton recommends that, when such tumors take an outward course, it is better to open them, squeeze out the contents, and extract the cyst. If the incision be made horizontally there is no danger of a scar.

ART. 90.—*Case of Removal of a Piece of Steel from the Interior of the Eye.*
By Mr. CRITCHETT, Surgeon of the Royal London Ophthalmic Hospital.

(*The Lancet*, April 1, 1854.)

"I have brought this case before the notice of the profession," writes Mr. Critchett, "because it seems to me to possess some curious features; it is remarkable that a piece of iron of such solid form should have caused a wound capable of such complete closure as to keep in the aqueous humor, that it should have had sufficient force to cut the iris, and yet have been arrested at the posterior part of the lens, without wounding the hyaloid membrane, and that such an amount of violence could be done to the eye, both in the first instance, by the accident, and, subsequently, by my operation, with so little damage to the integrity of the organ; further, the mode I adopted for its removal possesses some interest. Another motive, however, for publishing this case is to furnish me with a text for the propriety of removing foreign bodies from the interior of the eye. When they lie upon the surface, all are agreed as to the propriety of removing them, and except when small fragments are imbedded in the cornea they are easily removed. In such cases we use a kind of small spud, not so sharp as to become entangled in the cornea, yet sufficiently thin to pass under the foreign body. When, however, any foreign substance has entered the eye, opinions are not quite unanimous as to the propriety of removing them. My own opinion, and that of my colleagues at the Ophthalmic, is decidedly in favor of removal wherever it is practicable, however long it may have been there, and at whatever risk of evacuating the contents of the globe. So long as it remains it is always ready and liable, on the slightest provocation, to light up acute, obstinate, and, I may almost say, hopelessly-prolonged inflammation, and any attempt at that time to remove it is attended with extreme pain, difficulty, and danger; and, moreover, even where acute symptoms do not occur, a slow process of disorganization goes on, which not only destroys the organ, but is very prone to damage the other eye through the medium of the very intimate sympathy and connection existing between the two. When the foreign body has passed out of sight, of course the difficulty is much increased, but the case I have related seems to offer some encouragement to make an attempt; matters cannot, on that account be more unfavorable, and even if we fail in the search, subsequent spontaneous escape may be thereby facilitated."

CASE.—John A—, æt. 20, an engineer, applied at the Royal London Ophthalmic Hospital, October 4th, 1853, under the following circumstances:—on the previous day, while engaged in turning, a piece of metal flew off with considerable violence, and struck the left eye. He has suffered ever since from severe pain in the globe and dimness of vision. On examining the eye, I found, at the upper part of the cornea, and extending downwards towards the centre, a rather irregular incised wound, which was so far closed as to retain the aqueous humor; at the pupillary margin above there was a dark-looking mark which appeared like a foreign body; the lens was becoming milky. Judging both from the his-

tory and appearance that a foreign substance had entered the eye, I proceeded to attempt its removal. I first introduced a small probe through the wound in the cornea towards the dark spot on the pupillary margin, when I ascertained that the appearance depended upon a slit in the pupil caused by the passage of the foreign body. Having thus far tracked it on its way, and knowing how much mischief was to be feared from leaving it in the globe, I determined to prosecute my search still further, seeing that the lens was becoming opaque, that a traumatic cataract was already forming, and that it only required time to become quite complete, I proceeded to remove it. I slightly enlarged the opening in the cornea, and introduced the scoop of the curette, I gradually spooned away the greater part of the lens—a mode of extracting a soft cataract through a small aperture that we sometimes adopt at the Ophthalmic Hospital. When the lens was thus nearly removed, a dark oblong piece of metal suddenly came into view, lying behind and across the pupil, and resting upon the hyaloid membrane of the vitreous humor, which was evidently not wounded. I now introduced a pair of delicate forceps, and endeavored to seize and draw it out, but though there was no difficulty in placing the blades of the forceps upon it they slipped off whenever I made the least traction, which was accounted for by the smooth polished surface of the metal, and by its prismatic form. Finding it quite impossible to remove it in this way; I introduced the spoon of the curette under it, and thus succeeded in lifting it out; but in doing so the hyaloid membrane was wounded, and a small amount of vitreous humor escaped; the eyelid was closed; the man was put to bed; some slight swelling of the lids came on, together with pain; but these symptoms gradually passed away. A week after the accident the wound in the cornea was healed. The present state of the eye, ten weeks after, is as follows:—there is a faint mark in the cornea where the wound was made; the remainder of the cornea is quite healthy and transparent; the pupil is small, and filled with a thin layer of lymph, and above there is some small adhesion of the iris to the cornea; there is a good anterior chamber; some perception of objects; and I expect, when the pupil is opened, there will be useful vision. The globe is of the normal firmness, and free from pain and inflammation, and has been so ever since the first week after the accident.

ART. 91.—Removal of an Osseous Tumor, with part of the Ethmoid and Upper Maxilla.
By Dr. WEBB, Professor of Clinical Surgery in the Medical College, Calcutta.

(*Indian Annals of Medical Science*, Oct., 1853.)

The tumor in this case is said to have gradually increased in size for eight years. It consisted of simple spongy bone, without any cartilage or fibrous tissue. The recovery was rapid and without any accident. Dr. Webb writes:—

On the 7th June, 1853, at the Medical College Hospital, Hurrish Chunder Mookerjee, a Brahmin, æt. 25, of healthy appearance, was admitted under my care, with an osseous tumor filling up the nasal cavities and part of the right orbit, thrusting the eye outward in a manner so singular that standing behind the man he appeared to look at you backward. The eye, moreover, was nearly closed, but this was in some degree caused by inflammation, and partial suppuration of the upper lid, and the eye became more open when a little pus was evacuated by incision. There were tears and mucus exuding from the incision made over the inner canthus, so that it is probable the obstructed lachrymal sac caused some suppuration and swelling.

A more accurate examination of the tumor, showed the nasal bones so forced asunder that the finger could be laid in the interval between them. The right one raised up, so as to lie flatly on the tumor, elevated the integument to a level somewhat higher than the nose, which had thus assumed a monstrous flattened appearance. From the centre of the root of the nose to the inner canthus of the right eye measured two inches and a half. When the finger was thrust into the inner canthus, it could be made to pass along the upper margin of the os planum for an inch, and this portion of the ethmoid was found to be irregularly nodulated upon its surface, and to project at least a finger's breadth into the

orbit below, causing the exophthalmia alluded to. The upper border of the *os planum* constituted apparently the upper boundary of the tumor, its lower limit being the horizontal plates of the superior maxillary and palate bones. In the nasal fossa a small flat probe could be passed between the floor and the under surface of the tumor for an inch. The hard palate was not depressed into the mouth, and all the teeth were firm and sound, but the right half of the hard palate was wider than the left. Towards the inner side the tumor had so pressed upon the septum, that a probe could not pass through the left nasal fossa. Even the spongy bones of this side were partially compressed and obliterated, yet air passed through which could not be forced through the right fossa. The whole nose was carried to the left. An eye probe could be passed between the tumor and septum in the right fossa for a very short distance. The tumor was *seen* to extend quite to the opening of the right nostril, and was there felt to be nodulated, and of incompressible bony hardness. The fingers, introduced into the mouth, and carried over the soft palate into the posterior nares, encountered the posterior border of the tumor, which was in some degree flexible. The anterior, and lateral, and posterior boundaries of the antrum, felt in the mouth above the alveolar ridges, were not distended nor perceptibly altered.

I concluded, therefore, that the tumor was not within the antrum. But it appeared to have encroached upon and to have obliterated the lateral mass of the ethmoid, the spongy bones, and the ascending process of the superior maxillary bone, which last appeared to form its firmest support.

To save the hard palate and the malar bone, and the septum narium was most desirable. But how could I do this, and yet remove the tumor so closely jammed in between these points? Tumors situated like this are generally, when removed, depressed into the mouth. But I could not depress if I saved the hard palate; could not press it outward if I saved the malar bone; could not press it upward if I saved the floor of the orbit; nor inward because of the nasal septum.

I resolved, if possible, to scoop out the centre of the tumor, and then crush in its crust; and as no instruments I possessed had strength and temper adapted to this work, I got, through the kindness of Mr. Holmes, vet. surgeon, a drawing knife of small size, which answered admirably.

The operation was performed on the 16th of June, the patient having been first put under the influence of chloroform.

(1.) With a sharp-pointed bistoury, I made an incision, beginning at the left of the root of the nose, then down to the bone over the root of the nose, and on over the tumor to the inner angle of the right eye, then bending outwards as far as the infra-orbital foramen, then down to the lip, transfixing it: the knife cutting itself out at the angle of the mouth. (2.) The lip, ala nasi, and nasal bone were now quickly dissected upwards, and turned over to the opposite left side, exposing the tumor to some extent. (3.) With a trocar, I pierced into the antrum (found no fluid). (4.) One blade of a cutting-bone forceps was introduced through this opening, the other blade lying under the tumor in the nasal fossa, the intervening ascending process of the maxilla was cut across. (5.) One blade again in the antrum, the other in the orbit, external to the nasal duct, this portion of orbit was cut across. (6.) I now dissected up the eye, and, keeping it away with my finger, I introduced one blade of the bone-cutter above the projection of the *os planum*, resting the other blade above the tumor, where the removal of nasal bones had exposed the root of the nose, directing the forceps obliquely downwards, so as to avoid the orbital plates of the frontal and the pulley of superior oblique muscle, I cut all through.

(7.) The tumor was now felt to move a little, and using more force, twisting it on its centre, it broke off. (8.) I then attacked it with the "drawing knife" with button end, cutting and scooping out as rapidly as I could, for the bleeding was very profuse from every fresh cut—I excavated a hole as large as a pomegranate. (9.) I broke up the shell, which lay upon the hard palate, and found the mucous membrane quite healthy below. (10.) Forced outwards the shell that lay next the septum, and found that partition was covered by healthy mucous membrane. (11.) I then pushed forwards, with my fingers in the mouth curved over the soft palate, that posterior softer part of the tumor which hung

into the fances, it started forward like a cork, and the blood now ran back into the throat, but was before so accumulated as greatly to obscure the outline of parts. The passage being fairly open, the uvula appeared continuous with the floor of the nasal cavity.

My hand could now enter the cavity. (12.) With my finger nails I cleared all away from the roof of the nasal fossa and cribriform plate of the ethmoid. I felt the soft contents of the orbit, where the os planum had been removed, and the compressed walls of the antrum were seen below. The bleeding now seemed to come only from the upper and outer part of this chasm, probably from the sphenopalatine artery. The cavity was stuffed with tow and dossils of lint, which restrained the hemorrhage. The man became faint and the bleeding ceased entirely. After waiting half an hour, the edges of the wound being cleaned, were brought together, and secured by needles (points made sharp and angular), by interrupted suture, and by strips of plaster between the sutures.

The upper part of the wound passing through the integument, lately inflamed and yet exuding pus, I feared to secure by ligature. This was the only part that did not unite by adhesion. On the third day, it was necessary to remove the lint and tow saturated with offensive discharge. But as the lip now adhered above the alveolar ridge, the nostril was the only exit left. The process of drawing it out by dressing forceps was long, and the quantity apparently as interminable as the yards of tape and ribbon miraculously evolved from the head of a conjuror.

"There is now," writes Dr. Webb, three months after the operation, "but slight difference in the axes of the two eyes; over both he has perfect command. The nose is well formed, and has attained its central position. There is slight loss of sensation about the angle of the mouth. In general health he is fat and strong."

ART. 92.—On a New Instrument for the Removal of Polypi from the Ear. By JOSEPH TOYNBEE, F.R.S., F.R.C.S., Aural Surgeon to St. Mary's Hospital, Consulting Aural Surgeon to the Asylum for the Deaf and Dumb, &c.

(*Medical Times and Gazette*, Nov. 19, 1853.)

Various instruments have been invented having for their object the removal of the small vascular polypi from the external auditory meatus. Of these, by far the best is the snare of Mr. Wilde, which is thus described at page 420 of that gentleman's work on *Aural Surgery*:—It consists "of a fine steel stem, five inches long, and bent in the centre, with a movable bar sliding on the square portion near the handle, which latter fits over the thumb. The upper extremity is perforated with holes running parallel with the stem, and loops at the angle serve the same purpose. A fine wire, fastened to the crossbar, passes through these loops and holes; it should be of such length that, when the crossbar is drawn up tight to the handle, the ligature is fully on the stretch. . . . In using it, the cross-bar is pushed forward, and a noose made of the wire at the small extremity of sufficient size to include the morbid growth, which it is then made to surround, and towards the root of which it is pressed by means of the stem; the cross-bar is then drawn up smartly to the handle, while the point of the stem is pressed downwards; and it never fails of either cutting across or of drawing with it whatever was included in the noose."

The difficulty attendant upon the use of this instrument consists in getting the wire noose around the polypus, which frequently is of a very small size; another disadvantage is, that it cuts off a portion of the growth instead of withdrawing it entire. Mr. Toynbee proceeds:—

"The instrument which I have been in the habit of using during several months at St. Mary's Hospital, as well as in private practice, with most satisfactory results, I have called the *lever ring forceps*, and it is on the principle of M. Luer's scissors. In the interior of the ordinary tube is the delicate steel rod, the end of which is split into two portions, to each of which is fixed a small oval ring, measuring four or five lines long and from two to three broad. These rings (the inner surfaces of which are flat) separate from each other when the lever

is not pressed; but, when the lever is pressed, the rings are brought into contact. The instrument is introduced into the meatus with the rings apart; these may be made to enclose the polypus or a portion of it between them, and then, by pressing upon the lever, the polypus is seized, and can be drawn out.

"For the removal of the larger polypi, I am in the habit of using the *ring forceps*, which are made after the fashion of ordinary dressing forceps, but, instead of teeth, there is a ring at the end of each blade. The advantage of the rings is, that a portion of the polypus is securely held within them, while, with the ordinary dressing forceps, the polypus is generally broken up, and the removal of the roots is impracticable.

"I may take the present opportunity of suggesting that the Eustachian catheter should be made oval instead of round. The advantages attendant upon the oval shape are, that it passes through the nose with more facility, and with less uneasiness to the patient; and that, when introduced into the faucial orifice of the Eustachian tube, the flattened surfaces are in apposition with the flattened walls of the tube; and the discomfort produced by the pressure of the convex surface in the rounded form of the instrument commonly in use is, at least partially, avoided."

ART. 93.—*A New Mode of Plugging the Nostrils in Epistaxis.*

By Dr. LEYDET of Gardannex.

(*Rév. Méd. Chir.*, Oct. 1853.)

M. Leydet proposes to plug the nostrils in cases of obstinate epistaxis by introducing (by means of a piece of elastic bougie,) a small bladder or a bag of intestine, into the nostril, and by then inflating the bladder or bag until it is made to fill accurately the whole of the nasal fossa. The opening through which the inflation is made is provided with a screw to prevent the escape of air. For convenience of inflation, it is also recommended that there should be a piece of elastic tubing attached to the opening.

ART. 94.—*Restoration of the Entire Upper Lip.* By J. M. CARNOCHAN, M.D., Professor of Surgery in the New York Medical College, Chief Surgeon to the State Emigrants' Hospital.

(*American Med. Monthly*, Jan. 1854.)

There are but few recorded instances of restoration of the entire upper lip, after destruction of its tissues, and there are no definite and satisfactory rules as to the mode of operating in such cases. Ledran, in a case of cancer of the whole of the upper lip, endeavored to remedy the deformity resulting from the operation, by bringing the lower lip up to the base of the nose. Lisfranc and the younger Bérard and now Dr. Carnochan, have each succeeded in making an entirely new upper lip. In each of these instances, the Celsian method was adopted; that is, after removal of the disease by angular incisions, lateral quadrilateral flaps are detached by dissection, and then brought together in the median line. The cheeks thus contribute to the formation of the new lip, the free edge of which is constituted by the bleeding edge of the lower horizontal incisions; while the upper horizontal incisions are united to the base of the nose.

CASE.—In April last, I was consulted by a lady, Mrs. O. H., æt. 39, the wife of a planter in North Carolina. Her parents had been persons of good constitution, and her brothers, of whom she had several, are free from any manifestation of cachectic diathesis. As early as she can recollect, she was afflicted with pains in the limbs; and, at the age of ten, the glands became affected. Lumps of considerable size would frequently form about the throat and ears, and also a lump in her left breast, about an inch and a half in diameter. A small protuberance had made its appearance on the upper lip, which, to use her expression, was said to be a mother-mark. This pimple, or mark, gave no trouble until 1836, about her 22d year of age, when it assumed the character of a sore, with but little secretion for a time, but afterwards accompanied by an unhealthy,

sanious discharge. The ulceration soon became about three quarters of an inch in diameter, and seemed disposed to progress rapidly on the surface of the lip. Alarmed at this extension of her malady, she consulted some physicians of eminence, who pronounced the disease cancerous, and recommended recourse to an operation. This proposition was assented to, and an operation was performed. The wound seemed to heal favorably, and the local disease was apparently cured. Her general health, however, remained feeble, and she proceeded to Philadelphia to consult Dr. Dewees, then a distinguished professor in the University of Pennsylvania. Under the care of this physician, her general health became much improved, and for some years she remained in good health, without recurrence of ulceration of the lip. In 1845, she had an attack of malarious fever, during which the lip became tumefied, and ulceration at the seat of the old sore broke out again with more malignancy than ever. The disease again assumed a chronic form, and, under the use of some alterative medicaments, remained stationary for nearly three years. In October, 1848, another exacerbation of the disease took place, attended with excruciating pain and a slight extension of the ulceration. These symptoms were again impeded by the use, as she supposes, of sarsaparilla and some other unknown medicines. From this time the disease remained almost passive, until January, 1850; at which time, after the birth of an infant, the ulceration began to extend and to invade the entire thickness of the lip; destroying in its progress the entire substance of the lip in nearly its whole extent, from the free margin up to the base of the nose; on the right side, the ulceration also extended for more than half an inch, encroaching on the face along the side of the nose, detaching the ala of that side from the cheek for nearly half an inch. The ulceration had again become passive when the patient presented herself for my advice.

Her appearance was really deplorable. She was much emaciated, and her countenance wore the expression of intense mental suffering. The front teeth of the upper jaw were tolerably sound, but somewhat loose; the two canine teeth were partially, and the four incisors entirely, exposed; the gum, also, corresponding to the incisors, was exposed so far as the base of the nose, and was dry and purple for want of its natural covering. The ulcerative process had destroyed the entire thickness of the lip up to the base of the nose; on the right side, extending to the angle of the mouth; on the left side, to within one line of the angle of that side. The ulceration had also extended upwards on the right side of the face, beyond the level of the base of the nose, and had detached the lower portion of the ala. The edges of the ulceration were hard, thickened, and irregular; in some parts dried up, in others presenting patches of angry aspect, apparently ready to take an acute ulcerative action upon the slightest exciting cause. There was no glandular enlargement at the base, or near the ramus of the lower jaw.

Viewing the condition of this patient, with such a dilapidated system, deteriorated also by perverted constitutional diathesis, I could not be but doubtful of the success of an operation which would have for its object, not only the removal of the diseased tissues, but the restoration of the entire substance and extent of the upper lip. The lady was remarkable for her intelligence, and I explained to her the probability of failure from the nature of her case, and the direful results which might ensue if the necessary incisions of such an operation did not unite. She replied that she wished me to perform the operation, if it were at all practicable, and that she would abide the result with fortitude and resignation. The operation was performed on the 21st of April.

Operation.—The patient being seated in a chair somewhat elevated, and placed so as to be in a favorable light,—with a piece of fine carmine, pointed, I commenced by making dots on the face, in the line of the incisions intended to be made. The lower line ran in a direction from the angle of the mouth towards a point a little below the apex of the lobe of the ear; the upper extended from the base of the nose towards the centre of the antitragus; a slight curve, with the concavity looking upwards, being given to each line. One assistant supported the head, compressing at the same time the facial arteries; while another depressed the lower lip with a light curved spatula. Passing the forefinger of the left hand along the mucous surface of the cheek, as far as the anterior margin

of the ramus of the jaw, and holding in the right hand a long narrow, straight bistoury, I transfixed the entire substance of the left cheek on the lower line, at a point corresponding to the anterior margin of the masseter muscle. Carrying the bistoury towards the commissure of the mouth, the entire tissues of the cheek were now divided. Seizing the flap thus formed between the left forefinger and the thumb, and holding it upwards, the bistoury was carried freely along the line where the mucous membrane is reflected from the upper maxillary bone to the cheek, and made to separate the tissues upwards for some lines from their attachments to the superior maxilla. Still retaining the flap with the left forefinger and thumb, the bistoury was again passed through the substance of the cheek, on the upper line in front of the masseter, and carried forward so as to divide the cheek as far as the base of the nose. A quadrilateral flap was then formed of the tissues of the cheek, containing, in its substance, the orifice of the duct of Steno, which had been carefully avoided while the cuts were being made. The oral side, or edge, of this flap consisted of the indurated and ulcerating margin of the disease. With a pair of strong hare-lip scissors, this margin was removed, so as to leave a free, straight, and healthy margin.

Changing the bistoury to the left hand, a similar quadrilateral flap was then formed in the same manner, on the right side, from the tissues of the cheek, and the diseased margin disposed of, so as to leave a healthy, straight edge, corresponding to the same edge of the opposite flap. The bistoury was next carried transversely across the base of the nose, so as to remove the diseased margin at that part, and, at the same time, to vivify the tissues in that direction.

There still remained that portion of the disease which required removal, extending, for about half an inch, along the right ala of the nose. This was removed by incisions so fashioned as to form a triangle, and so as to leave healthy margins, free from any induration.

It now remained to bring together the various bleeding edges thus vivified, and to retain them together by the twisted suture. An assistant now pressed forward the quadrilateral flaps of each side, so as to bring in contact, on the median line, the vertical margins of the two flaps. Four suture pins, suitably placed, maintained the apposition in that direction. A pin on each side was now inserted, so as to regulate the transverse extent of the mouth, and to form the new commissures as near as possible in the site of the old. To unite the lip of the wound in the line of the lower horizontal incision, four pins were inserted on each side; and to effect the same end, along the line of the upper incision, four more pins on each side were inserted. Apposition of the bleeding surfaces across the base of the nose was effected by means of four points of interrupted suture; and three additional points of suture were used to bring together the edges of the triangular loss of substance along the ala of the nose.

The free border of the new lip, formed by the lower margin of the flaps of each side, united in the median line, still presented a bleeding surface. To obviate this, and to regulate the shape of the prolabium, the mucous membrane lining the new lip was drawn over the bleeding edge, and incorporated by four points of twisted suture with the tegumentary tissue.

During the operation, there was a considerable flow of blood; but this was easily arrested by the applications of the sutures.

Patient went on well until the next day, April 22d, at midnight, when she complained of a good deal of pain in the right cheek and forehead. This was eased immediately by applications of Tincture of Aconite.

April 23d.—A slight puffiness of the right side was observed; this commenced at the root of the nose and gradually extended until the upper portion of the cheek and eyelids were considerably swollen.

April 24th.—Patient comfortable, and swelling of right side considerably diminished.

April 25th.—Swelling almost entirely disappeared. Five pins removed this day from points where union seemed most complete. Three suture ligatures also removed; patient feels very well.

April 26th.—Favorable symptoms continue; eight pins removed, one of which is from the mesial line of union of the lip. Union has taken place along all the incisions, except that at the base of the nose. Here, at the point where the inter-

rupted sutures were used, there is suppuration for about one-third of an inch. The points of suture at the angles of the mouth and at the lower part of the labial median incision, still allowed to remain, although there is adhesion at these places. The sutures along the-prolabium removed. Patient complains of weariness from want of exercise, but feels perfectly well otherwise; pulse 98.

April 28th.—Removed seven more of the pins. Still leave in those at the angles of the mouth. Patient tolerably comfortable. Union at the angles of the nose has not taken place by adhesion, apparently the surfaces begin to granulate in a healthy manner. No fever, pulse somewhat irritable, continues to use fluid material for food.

April 29th.—Removed the pins at the angles of the mouth, and the two lower pins at the median line of union of the lip. Union perfect everywhere along the incisions, except at the base of the nose—slight adhesions here. Granulating process proceeding well. Patient much more comfortable to-day than since the operation.

April 30th.—The parts along the base of the nose continue to granulate healthily. A slight slough is evidently being thrown off along the median line of union of the lip, nearly as far as the free border, though not through the entire tissues of the new lip. The entire line of all the other incisions has firmly united.

May 1st.—Dressed the lip. The slough separated, and will probably leave the new lip entire.

May 2d.—Dressed the lip. The slough continues to separate; it is superficial, and leaves the lip entirely continuous. General health as good as usual.

May 3d.—The slough has separated and proves to be merely superficial. Granulation is proceeding well. Patient comfortable.

May 4th.—The lip where the slough separated is granulating finely, and new skin is beginning to appear. Patient feels well.

May 14th.—Union complete; cicatrization perfect. New lip formed. Shortly after this date the patient left New York for *her own home*, with the character of her face restored to its natural aspect, and in much better health and spirits than she had been for many years; feeling, as she remarked, as if she "inhabited another body."

ART. 95.—*Amputation of the Tongue* By M. MAISONNEUVE.

(*Gazette des Hôpitaux.*)

This case is peculiar, in the supposed cause of the affection, and in the complete recovery of speech.

"CASE.—Dr J—, corresponding member of the Academy of Medicine, and President of the Committee of Vaccination, had been for several years in the habit of sending to the Departments, liquid vaccine-matter, preserved in small tubes. The matter was put up by himself, and, as a consequence, he had been in the habit of holding a certain number of glass tubes in his mouth. The sharp points of the glass induced punctures on the tongue, frequently followed by small pimples. The pimples would generally disappear in a few days, but, in time, an induration supervened, and became, by its persistence, the origin of a grave disease. In fact, tormented by the persistence of the induration, Mr. J. endeavored to remove it by cauterization. He first employed nitrate of silver; then, acid nitrate of mercury; but this medication aggravated the disease, instead of arresting its progress. Epidermic tubercles were developed all over the surface of the tongue, and subsequently a deep ulceration invaded the central part of the organ. By the advice of friends, he submitted to the energetic cauterization of red hot iron, an operation which had the effect of giving still greater activity to the disease. All the anterior part of the tongue, nearly as far as the calciform papilla, became the seat of ulceration; while at the same time, the central ulcer was making rapid progress. To these symptoms were soon added lacerating pains, which entirely deprived the patient of rest. He consulted Dr. Ricord, who submitted him to the iodide of potassium. Despite this treatment,

the disease gained daily ; the tongue enormously tumefied, ended by obstructing the buccal cavity ; the efflux of saliva was continuous ; speech became impossible, and the patient was compelled to restrict himself to liquid aliments. It was in these conditions, that, by the advice of Dr. Ricord, the patient came and consulted me. In the presence of disease of such gravity, against which the most rational medication had been found powerless, I believed myself justified in proposing amputation as the only resource. It was performed on the 24th of August, at Dr. Pinel's *Maison de Santé*, in the presence of Drs. Larry, Ricord, Richard, Dumolet, Lauglebert, and Pinel. The patient having been submitted to chloroform, I first incised, on the median line, the lower lip and the soft parts of the chin. Next, with a chain saw, I made the section of the lower jaw ; the two branches of which being thus separated, I was enabled to grasp the tongue, and draw it out. By a rapid dissection, the diseased organ was then separated from the healthy parts, as far as beyond its anterior half, and over an extent of an inch. The sublingual gland had also to be sacrificed. Ligatures were applied upon the important vessels, so as to prevent hemorrhage. After this operation, the branches of the jaw were brought together, and maintained in contact, by means of thread rolled round the incisor and canine teeth ; the ligatures placed upon the vessels were directed under the chin, in the inferior angle of the chin ; and the edges of the division were united by means of the twisted suture. Notwithstanding the extreme gravity of this operation, no accident resulted. The union of the external parts was effected by first intention ; the enormous loss of substance was rapidly repaired ; the bones became consolidated ; and what was remarkable, forty days after the operation the patient had recovered his speech, and the faculty of seizing and masticating his food. On examination, the tumor was found to belong to the class of epithelial cancrs.

ART. 96.—*On the Operation for Split Palate.* By Professor SYME.

(*Edinburgh Monthly Journal*, April, 1854.)

"The alleged advantage of dividing the muscle of the palate to promote union is," writes Mr. Syme, "an entire delusion of those who believe in it ; since a partial division could, of course, produce no good effect, while a complete one is impracticable, and, if accomplished, would be useless. The muscles proposed to be divided are the levator palati and the palato-pharyngeus. These muscles are not slender threads, but fleshy masses of considerable thickness and breadth, occupying a very deep, inaccessible, and irritable part of the fauces. But in the performance of myotomy, or even tenotomy, tension of the texture to be cut is well known to be essential for its complete division ; and, as in the case of split palate, the attachments of the muscles having no fixed point of resistance, this state of tension cannot be induced, the operation proposed would be nearly, if not quite, impracticable, even under circumstances of the most favorable kind, which place the part to be divided within reach of sight and touch. The knife which Mr. Fergusson has recommended for the purpose should alone be sufficient to excite serious doubts as to the practicability of accomplishing the object in question ; and if any one believes that he could divide completely the lax and yielding bellies of the palatal muscles by such means, his ideas of operative procedure must be very different from those which most anatomists would be led to entertain from their acquaintance with the animal tissues and the power of instruments upon them. That the muscles in question may be wounded or partially divided I readily admit ; but that they can be completely cut across, and, still more, that they can be so with certainty, I no less positively deny. And if the division is only partial, it must be equally incompetent to produce the effect desired, as an imperfect section of the adductor muscle of the eyeball is found to be for the cure of squinting.

"The next point for consideration is the amount of advantage to be expected from division of the palatal muscles, supposing it were practicable. If they remain undivided, it is said there will be a constant tendency to separate the raw edges, and prevent union ; while, if they are divided, the palate being rendered lax and flaccid will be in the most favorable condition. But, it may here be asked, does the presence of muscular contractility in other situations impede

union! and does a flaccid state of the textures concerned tend to promote it? In harelip, when the patient cries, the edges of the fissure are drawn so completely aside as nearly to efface the appearance of a lip: yet, if the operation be properly performed, no inconvenience is experienced from this source, and a sound union is accomplished with almost absolute certainty. In wounds of the eyelids or cheek, even when attended with a considerable loss of substance, and when the raw edges are widely separated by the muscular contraction, no difficulty is found in keeping or uniting them together. It seems, indeed, as if, through some intuitive influence of the *vis medicatrix*, the muscles of the part concerned cease to contract with violence, and merely give that degree of tension or firmness which is well known to favor the adhesive process. On the other hand, there can be no doubt that if the palate admitted of being rendered perfectly lax and flaccid, it would then become very unfavorably situated, either for the performance of the operation, or for the accomplishment of a satisfactory result, since, as every practical surgeon knows, there is nothing more opposed to sound union between the surfaces of a wound than the soft and flabby state which results from redundancy or relaxation of the textures. From what has been said, it will, I trust, appear that complete division of the palatal muscles is impracticable, that it is not requisite for a successful issue, and that, so far from being so, it would really be adverse to the object in view.

"I may here remark that very serious doubts have been entertained as to the expediency of performing this operation at all, since it cannot be attempted with any prospect of success until the patient is old enough to abstain from voluntary resistance; and then the organs of voice have become so practised in overcoming the difficulties of their imperfect condition, that closure of the fissure, so far from being always beneficial, sometimes appears injurious to the distinctness of articulation. But as the operation, if undertaken, should be conducted so far as possible to assure a satisfactory result in regard to the accomplishment of its immediate object, I shall now offer some remarks upon the different steps which are required on the occasion, and as it may be supposed that, although the principle of Mr. Fergusson's operation has seemed to me so questionable, there is, perhaps, something in the mode of its performance deserving of attention, it will be proper to inquire particularly into the method which he recommends.

"Mr. Fergusson advises that, in the first place, the muscles should be divided by cutting on each side deeply into the pterygoid fossa with his triangular knife, and then using scissors to complete the process. Now, granting that the object in view may be thus accomplished, which I entirely disbelieve, it is at all events evident that the patient's throat must be in a painful, irritable, and bleeding state when the next step is undertaken. But this step is of the most essential importance, since it is nothing less than placing the edges of the fissure in a condition admitting of their sound union, by paring them so smoothly and accurately that, without any undue loss of substance, the two raw surfaces may allow of perfect adaptation. How a process so nice and delicate is to be executed when the parts are obscured by blood, and the patient's power of self-command has been impaired or expended in enduring the much more painful preliminary proceeding, I am at a loss to understand any more than the possibility of paring the edges of the fissure as Mr. Fergusson advises, by seizing the uvula, and cutting towards the commissure, especially with such a knife as the one he recommends for the purpose, which is thick and narrow instead of being thin and broad as it ought to be. How the sutures are to be got in does not very clearly appear from Mr. Fergusson's description, but his advice to take them out on the second or third day seems in the highest degree objectionable, since the union, however perfect in the first instance, can then have little power of resisting pressure, either from food or the tongue, independently of the disturbing influence of the pharyngeal muscles. The threads should penetrate the whole thickness of the palate and be tied with no more force than is sufficient to retain the edges in contact, so that, in the event of union taking place, they may neither cause sloughing of the portion included, nor cut their way out by ulcerative absorption. In the case of a young lady, on whom I lately operated with such success that the adhesion was complete to the very tip of the uvula, one stitch was removed on the eighth and the other on the tenth day.

"In performing the operation, the best way of proceeding is to place the patient on a chair in a good light, then to seize one edge of the fissure at its middle by sharply-pointed forceps, and introduce the knife, which should be thin and lancet-shaped (like the one of this form used for the extraction of cataract), a little above the commencement of the cleft, and cut evenly down from this point to the extremity of the uvula, so as to detach a slice of sufficient thickness to expose the submucous textures. The same process being repeated on the other side of the fissure, nothing remains but to introduce the stitches, which is best done by means of a slightly curved needle with fixed handle, which should be directed from without inwards, first on one side of the fissure, and then on the other. The two inner ends of the thread being then tied together, one of the other ends is to be pulled until the knot is drawn through the edge of the palate, and sufficiently far out of the mouth for the purpose in view. Two stitches are sufficient, one being placed at the root of the uvula, and the other midway between this point and the angle of the edges of the fissure. The threads should be tied with the 'reef knot,' and in doing so, resiliency of the textures may be counteracted by keeping the threads in a state of tension. For at least two days the patient should subsist entirely upon fluids, and of these even have a very sparing allowance. He should also, of course, avoid talking, coughing, sneezing, and all other actions calculated to disturb the uniting process."

ART. 97.—*Case of Fracture of the third Cervical Vertebra, with displacement, in which the patient lived for seven days.* By Dr. THOMAS DAVIS, of Manorhamilton.

(*Dublin Medical Press*, April 5, 1854.)

This case possesses several features of interest.

"CASE.—Patrick McManus, æt. 18, laborer, was admitted to the infirmary attached to the Manorhamilton workhouse, on the 2d inst., for an injury received five days previously. The statement he gave was, that on the 25th of February, when standing on a ditch, a man came behind and struck him with a grape in the neck. The blow knocked him down. While lying on the ground, two cows trampled upon him. Since this time he has been suffering excruciating pain all down the left side, but he was able to move his arm and leg a little until lately. On his admission he presented the following appearances: He lies on his back, with the left hand thrown across the chest; his countenance is anxious and flushed; he complains of intense pain in the left arm; he can move the right arm and leg, but there is complete loss of motion in the opposite side; sensation is perfect; the respiration is laborious, and appears to be performed both by the diaphragm and the muscles of the neck and chest on the right side; the skin is burning hot, with the exception of the feet, which are cold; the pulse is strong, 100; the tongue furred, similar to a patient's in an early stage of fever; the abdomen is tympanitic, but there is no tendency to priapism; his intellectual faculties are perfect. With difficulty I persuaded him to allow himself to be turned a little in the bed for the purpose of examining the wound caused by the grape. It was situated high up, close to the hair, about an inch to the left of the spinal processes of the cervical vertebra, it was of trifling extent, and seemed to be in a healing state. As the bowels have not been moved for some days, he was ordered a castor-oil draught with peppermint water, and to have heat applied to the feet.

"March 3d.—The bowels were freely opened, but the patient appears much worse than at last visit. The respiration is more laborious, and he has passed no water since last evening; the skin is hot, although the nurse states 'there was a nice perspiration out on him during the night:' the thirst great; pulse 90, small; he can still move the right arm and leg. Passed a catheter, and drew off about a pint and a half of dark-colored urine. He continued to sink until next day, when he died, apparently asphyxiated, his intellect being unclouded up to the last moment.

"Previous to his removal to the infirmary, this boy was attended as a dispensary patient by my friend Dr. Tate, of Manorhamilton, and I am informed by him that he then presented no symptoms of paralysis.

“Examination forty hours after death.—A probe passed readily through the wound in the neck as far as the vertebra. On carefully dissecting the parts, I discovered a fracture of the third cervical vertebra passing through the transverse process and body in an oblique direction from the lower articular process. The upper fragment of the bone was driven inwards, or rather twisted, and from it a spicula of bone had become detached, which, although it had not actually penetrated the substance of the spinal marrow, caused an indentation in the dural sheath on the left side. There was some extravasation of blood and considerable turgescence of the vessels in the neighborhood of the injury; but below this, both the spinal marrow and its coverings appeared healthy. The left lung was congested and dark-colored, presenting the solid appearance of liver. The right lung was healthy and filled with air. The heart presented no abnormal appearance.”

All our surgical authorities agree that fractures above the fourth cervical vertebra prove rapidly fatal. The foregoing case is therefore worthy of notice from the length of time the patient survived such a serious injury. To account for this, it is probable that there was no displacement of the bone until the period he was removed in a common cart to the hospital, and that the jolting he received on the way set free the spicula, which was found in the spinal canal. The latter being wider in the cervical than in the dorsal region, and the spicula small, may account for the length of time he lived. The paralysis being partial is also worthy of remark.

ART. 98.—*Exercise of the Voice in ulceration of the Larynx.* By M. TROUSSEAU.

(*Dublin Medical Press*, Feb. 22, 1854.)

In the *Journal de Médecine et de Chirurgie Pratique*, we learn that in the laryngeal ulceration which frequently complicates pulmonary consumption, M. Trousseau applies, as local remedies, solution of nitrate of silver, calomel with finely powdered sugar, nitrate of bismuth with sugar, arsenicated cigarettes, fumigations with chlorine, iodine, &c., and instead of prescribing silence, as all writers have done, he orders his patients to speak. He thus employs a mode of treatment analogous to that adopted in cases of ulceration of the leg by M. Boyer, and which is advocated in this country by Mr. Chapman and others. M. Boyer allowed his patients to walk about, and follow their ordinary occupations, when their legs were bandaged; and the result was a more rapid and solid cure, the cicatrix acquiring a strength which rendered subsequent laceration of comparatively unfrequent occurrence. M. Trousseau waits until the acute or painful stage of the disease has passed; he then submits his patients to a course of gymnastic exercises of the voice and speech. He is careful not to make them speak in a low voice; having learned from priests, many of whom lose their voice, that the confessional fatigues the larynx more than preaching in a large church. During four or five months, at least, the patient reads slowly and aloud five or six times daily, taking care at the end of each period or member of a period, to inspire as much air as the lungs can contain. He must make deep inspirations, and then emit several sounds in succession without exhausting the provision of air. He then inspires again, and emits fresh sounds, always avoiding the higher notes, which are fatiguing. If, after several months, the voice remains false or obscure, we may employ a process which was the secret of a professor of singing named Laroche, but which M. Trousseau accidentally discovered. Laroche used to desire singers who had lost their voice, to take as deep an inspiration as possible, and then suddenly, and in as little time as possible, to emit a short shrill note, expelling all the air which they had inspired. M. Trousseau has seen many persons who had lost their voice for years, recover it in a fortnight under this treatment. It must be remembered, however, that vocal gymnastics have succeeded only when the ulceration of the larynx has been cured, and when the aphonia has been, properly speaking, only a want of power arising from the prolonged rest of that organ.

ART. 98.—*Extraordinary operation on the Subclavian Vein.* By a Non-Professional Person.

(*Scalpel ; and Amer. Med. Monthly*, Jan., 1854.)

The following narrative is given to show the value of self-control and common sense in scenes of danger, and the resources of nature under the most desperate circumstances.

“ Edward T. Hinckley, of Wareham, Mass., then mate of the barque *Andrews*, commanded by James L. Nye, of Sandwich, Mass., sailed some two years and a half since (we find the date omitted in our minutes), from New Bedford, Mass., on a whaling voyage. When off the Gallipagos Islands, one of the hands, who had shown a mutinous disposition, attacked Captain Nye with some violence, in consequence of a reproof given him for disobedience. In the scuffle which ensued, a wound was inflicted with a knife, commencing at the angle of the jaw, and dividing the skin and superficial tissues of the left side of the neck, down to the middle of the clavicle, under which the point of the knife went. It was done in broad day, in presence of the greater part of the crew ; and Mr. Hinckley, the mate, being so near that he was at that moment rushing to the captain's assistance. Instantly seizing the villain, and handing him over to the crew, the knife either fell or was drawn by some one present, and a frightful gush of *dark* blood welled up from the wound, as the captain fell upon the deck. Mr. Hinckley immediately thrust his fingers into the wound, and endeavored to catch the bleeding vessel ; with the thumb against the clavicle as a point of action, and gripping, as he expressed it to me, ‘ all between,’ he found the bleeding nearly cease. The whole affair was so sudden, that Mr. Hinckley stated to me, he was completely at a loss what step to take. Such had been the violence of the hemorrhage, a space on the deck fully as large as a barrel head being covered with blood in a few seconds, that it was evident, from that and the consequent faintness, that the captain would instantly die should he remove his fingers from the bleeding vessel. As Mr. H. said to me, with the simplicity and straightforward style of a seaman, ‘ I brought to for a minute, to think over the matter. The bleeding coming upwards from under the collar-bone, and being completely concealed by it, it was plain enough that I couldn't get at the bloodvessel, without sawing the bone in two ; and this I would not like to have tried, even if I had dared to remove my fingers. Feeling that my fingers' ends were so deep as to be below the bone, and yet the bleeding having stopped, I passed them a little further downwards, still keeping up the pressure against the bone with the middle joints. I then found my fingers passed under something running in the same course with the bone ; this I slowly endeavored to draw up out of the wound, so as to see if it was not the bloodvessel. Finding it give a little, I slowly pulled it up with one finger : *when I was pulling it up, the captain groaned terribly* ; but I went on, because I knew I could do nothing else. As soon as I could see it, I washed away the blood, and was astonished and very glad to see there were two vessels, as I supposed them to be, one behind the other : *the cut was in the front one*. It was the full breadth of the knife, or about half an inch, and neither across nor lengthways, but about between the two, and went about half its thickness through the bloodvessel : *it was smooth and blue* in appearance ; and the cut had stopped bleeding, as I supposed at the time, because the vessel was pressed together by being stretched across my finger. As I had often sewed up cuts in the flesh, and knew nothing about tying bloodvessels, and supposed that was only done when they were cut in two, as in amputated limbs, I concluded to try my hand at sewing it up ; so I took five little stitches ; they were very near together, for the wound was certainly not half an inch wide, if so much. I twisted the ends together loosely, so as to make one large one, and let it hang out of the wound over the bone ; then I closed all up with stitches and plasters. On the fourteenth day I found the strings loose in the wound, from which matter had freely come : it healed up like any other cut.’

“ The practical anatomist and surgeon will at once see the internal evidence of the entire truthfulness of this extraordinary narrative, and the certainty that Mr. Hinckley must have closed up a wound in the subclavian vein. Aside from the position of the wound rendering any other explanation impossible,

and the color and amount of blood instantly lost, the fact that a wound of the subclavian artery must have been followed by aneurism, if not instant death, renders the conviction unavoidable that it must have been the vein. Indeed, it is impossible to suppose, aside from Mr Hinckley's high character and the corroboration of the log-book, that such a story could have been devised by any but a surgeon of decided practical ability. We may be mistaken in our views of its importance, but we think that in the estimation of our professional readers we have placed upon record one of the most extraordinary circumstances in the whole history of surgery."

(B) CONCERNING THE CHEST, ABDOMEN, AND PELVIS.

ART. 100 — *A case of complete dislocation of a Dorsal Vertebra, without fracture.*
By M. ROBERT.

(*Archiv. Gén. de Méd.*, Dec. 1853)

This case appears to be the only one of the kind on record. It is of interest for other reasons besides its rarity, for it has been denied that a dorsal or lumbar vertebra can be dislocated without the occurrence of fracture. It was brought before the Parisian Surgical Society, and we copy from their report.

"CASE — This accident occurred to a man, æt. 25, who was engaged in elevating a ponderous scaffolding pole. He appears to have been standing in the deep hole which had been prepared to receive the end of this pole, with this end resting upon the upper part of his back, when his strength failed him, and the pole descended and crushed him over the edge of the hole. On extricating him, the lower half of his body was found to be completely paralyzed, but no projection of vertebrae could be detected in the back. He died eleven days after, without experiencing any relief, head symptoms having supervened towards the close of life. After death, the body of the 5th vertebra was found to be separated from the body of the 6th. The body of the 6th vertebra projected inwards into the mediastinum, in which space a considerable quantity of blood was effused. The anterior and posterior great common ligaments of the spinal column were completely torn asunder at the point, as was also the intervertebral substance, a small portion of the latter remaining attached to the body of the 5th, and the larger portion to the body of the 6th vertebra. The articular processes of the dislocated vertebrae were completely separated the superior articular processes of the 6th vertebra being carried quite in advance of the inferior articular processes of the 5th vertebra. The ligaments connecting these processes, except those composed of elastic tissue, were ruptured. The spinal marrow was completely disfluent for some distance above and below the point of dislocation, but the injury to the bones was confined to a single articulation."

ART. 101. — *The pathology and treatment of Lateral Curvature of the Spine* — By Mr. WILLIAM ADAMS, Assistant-Surgeon to the Royal Orthopædic Hospital.

(*The Lancet*, March 18, 1854)

In this paper the author does not enter at any length into the consideration of the causes and symptoms of lateral curvature, except in so far as is necessary to the consideration of the general pathology of the subject; nor does he consider in detail any particular plan of treatment. His object is to show reasons for restricting the application of the term, lateral curvature of the spine, to a certain class of cases, the conditions of which are fixed and definite, to draw attention to such points in the morbid anatomy as he had been enabled to verify or establish by his own investigations; to examine the existing pathological doctrines in explanation of those phenomena; and to consider the general principles of treatment to which these conditions especially point. He observed that we hear a great deal about the "cures" of lateral curvature of the spine in these days, but his opinion was, that by far the larger proportion of such cases are derived from cases which possess no scientific or pathological claim to be considered really as cases of true lateral curvature, and he thought it would be of the utmost prac-

tical importance, especially in reference to the results of treatment, to define the anatomical characters of the cases described. He desired to limit the application of the term to those cases only in which the curvature was fixed and permanent, the curvature being always in the same direction and situation, and never disappearing in any position of the body. An example of the cases which this would exclude was then given, characterized by slight lateral curvature in the lower dorsal region to the right side, increased mobility, and slight prominence of right shoulder. These appearances would disappear on lying down, either spontaneously, or with very slight pressure and counter-pressure. Mr. Adams remarked that this would generally be considered a case of lateral curvature in the first stage, or an incipient lateral curvature of the spine; but he proposed to exclude this class of cases for the following reasons—viz.:

Although all spinal curvatures of the most common and uncomplicated form, which alone were discussed in this paper, must pass through this stage, only a percentage of such cases, probably one fourth, would become true spinal curvatures, three-fourths would probably get well without any special treatment, attention only being directed to the improvement of the general health, and with it of necessity to the increase of muscular power, &c. In these cases, moreover, there was no evidence of structural alterations in the intervertebral cartilages, such as Mr. Adams believed to be essential to the production of true or fixed lateral curvature, however slight. These cases the author proposed to group under the head of "threatened lateral curvature of the spine," and considered that the great majority of the so-called "cures" of lateral curvature were derived from these cases, together with some really in the first stage of true lateral curvature, which became arrested rather than cured under treatment. The nature of the structural changes which Mr. Adams had been able to trace in the different stages of true lateral curvature is then described; these changes referred chiefly to lateral absorption of the intervertebral cartilages and bodies of the vertebræ, together with enlargement and alteration in form of the articular processes, the articular facets of which become altered in direction where rotation is combined with lateral curvature. He has not been able to verify the statement generally made with respect to the ligaments—viz., their elongation on the convexity and contraction on the concavity of its curve,—and gave reasons for doubting its accuracy. The condition of the muscles was discussed at some length, and the author considered more extended observations of their structural conditions in the advanced stages would render material assistance in determining the accuracy of M. Guérin's theory of the production of spinal curvature by active muscular retraction. The commencement of these structural changes, the author considered to be coincident with the period of fixity of the curve, and proposed therefore to make this the diagnostic symptom of "true lateral curvature," as distinguished from "threatened lateral curvature," above adverted to. The practical importance of this point was particularly insisted upon, as enabling us to determine a fixed line, on either side of which our opinions, with respect to the indications for treatment, and its probable results, must be most materially modified. In the one case the affection is to be regarded as one of functional disorder, and in the other as one essentially and immediately dependent upon structural changes of important textures. Reparative processes, in the form of ankylosis, by plate-like and nodulous growths of new bone from the margins of adjacent vertebræ, and also in the increased density of the cancellous tissue of the bodies of the vertebræ, and their outer walls in the concavity of the curve, are minutely described. The principal theories or pathological doctrines, in explanation of the phenomena described are then discussed. M. Guérin's theory of active muscular retraction caused by material alterations of the nervous centres, together with his classification of the varieties of this deformity in respect of the intensity of the cause assigned, are discussed at length. Mr. Adams considers this view to be erroneous, as applied to the ordinary cases of lateral curvature, and in his experience at the Royal Orthopædic Hospital he has not been able to find a single example in any form sufficiently satisfactory to induce him to adopt the practice arising out of it—viz., the subcutaneous division of muscles. Mr. Adams related the particulars, and exhibited the cast, of a slight case of lateral curvature in a young lady who had

consulted both M. Guérin and himself—M. Guérin proposed operation, and stated his opinion in writing, that he believed mechanical treatment totally incapable of effecting a cure, and doubted its power of producing any amelioration of the deformity. Mr. Adams completely cured this case by mechanical treatment in nine months, and she now remains well. Mr. Dod's theory of rotation of the vertebrae was adverted to, but as the author considered the facts upon which it is based either as forming complications in the most aggravated forms of lateral curvature, or as constituting a peculiar form or variety of curvature, he dismissed it from the present paper. The theory which ascribes lateral curvature to a mechanical cause derived from the weight of the head and upper extremities, acting under the circumstances of muscular and ligamentous weakness, the direction and situation of the curve being determined by special circumstances is next discussed, and considered by the author to be most satisfactory. In accordance with this view, the indications for treatment, in the cases of "threatened curvature" and of "true lateral curvature," are described as follows: In the former, first, to improve the general health, and increase the muscular power generally; secondly, to diminish the functions of the spine as a supporting apparatus to the head and shoulders; thirdly, to avoid such habits as tend to disturb the balance of muscular action, as standing on one leg, sitting awry, or for any length of time in one position, raising one arm more than the other &c. The statement previously made, that three-fourths of these cases will get well without any special treatment for the spine, the author conceives to be borne out by the results of Sir B. Brodie's extensive and prolonged experience, as recorded by him in a clinical lecture in the *Medical Gazette* for Dec., 1846. Mr. Adams has no confidence in any system of special muscular exercises whereby the muscles of one side of the spine are sought to be particularly developed. In cases of "threatened lateral curvature" such a proceeding is not indicated, and in cases of "true or fixed lateral curvature," where theoretically it may be supposed to be indicated, the author believes it to be a practical impossibility for two reasons: first, the anatomical difficulty of stating precisely, in any given case, the exact muscles and portions of muscles, the increased power of which would act beneficially on the deformity, and secondly, the impossibility of strengthening those particular muscles and portions of muscles, if they could be selected, without at the same time strengthening others, the increased action of which would at least neutralize their effect. There being no evidence in ordinary cases, that the muscles of one side are weaker than those of the other, the author recommends general gymnastic exercises of a light and easy description. The inclined plane he objects to, especially as an extending apparatus, and considers a common sofa to fulfil the essential indication of rest and the horizontal position during two or three hours a day at different periods. If three-fourths of such cases will get well under such treatment, it must ever be remembered that one-fourth will as certainly get worse, and true or confirmed lateral curvature become developed. The indications for treatment in these cases the author considers to be the same as in those of threatened curvature, only in respect of the improvement of the general health and diminution of the mechanical functions of the spinal column. As regards muscular exercises and muscular development, he considers them to be precisely reversed. If all the muscles of the spine could be at once raised to their maximum of power, the effect would be to arrest the curvature at that point, and we frequently see cases arrested in the first and second stages where the general health and muscular power have been improved, but no advance would be made towards straightening a crooked spine. This, which must be considered the main object of treatment can only be accomplished to a greater or less extent, according to the circumstances of the case by mechanical treatment, which also has the advantage of promoting improvement of the general health, by removing the symptoms of pain, aching irritability of stomach, without interfering with any of the ordinary comforts of life. When you cannot promise your patients even any diminution of the deformity, you can most confidently assure them that the symptoms will be greatly relieved or entirely removed, the latter being the rule. This point was illustrated by the description and casts of the case of a lady, aged forty, in whom the curvature was of the most aggravated form, had existed nearly thirty years,

had greatly increased during the last ten years, and in whom the symptoms were of the most distressing character. All other plans of treatment had been tried and failed in this case, but by mechanical support the symptoms were completely removed, the general health restored, and the curvature very perceptibly improved.

ART. 102.—*Case of Recovery after Laceration of the Liver.* By Dr. HAMMOND.

(*The Lancet*, Dec. 10, 1853.)

This case is full of pathological and practical interest, for it furnishes proof that a patient may survive this very grave accident.

CASE.—W. H., æt. 33, a painter, of temperate habits, was admitted, April 30th, 1853, into Guy's Hospital, under the care of Mr. Hilton.

About two years ago the patient had three epileptic fits at considerable intervals, but he has had no recurrence of them since that time, although his head had never been quite comfortable, and he had been exceedingly irritable. Whilst engaged in glazing the roof of a saw-mill at Lambeth, the stage on which he was standing gave way suddenly, and he fell thirty-five feet to the ground upon his right side; he was immediately put into a cab and brought to the hospital.

When admitted, the man was in a state of collapse: the surface of the body cold and clammy; the countenance pale and sunken; pulse small, quick, and feeble. There was a lacerated wound, one inch and a half in length, immediately above the right eyebrow, laying bare the subjacent bone; several smaller ones on the chin, and another on the left hand, caused by some glass which fell upon him. He complained of great pain and tenderness in the centre and right side of the abdomen. The wounds on his face and hand were strapped up, and cold water dressing applied.

Influenced by the patient's general symptoms and the position of the local injury, it was thought probable he had suffered rupture of some internal viscus, possibly intestine or liver. Acting upon this suspicion, Mr. Hilton ordered the patient to be deprived of food, except a little simple fluid now and then to relieve the thirst, to be kept under the influence of opium, and the local treatment to be directed to the abdomen. Ordered two grains of opium immediately, and one grain after four hours.

Nine p. m.—Reaction has supervened, but not perfectly; he lies on his back with his legs drawn up, complains of great pain in the abdominal region, and cannot bear any pressure on his right side or round the umbilicus; his breathing is entirely intercostal; pulse small and laboring; no vomiting; has passed a small quantity of urine. Ordered thirty leeches to the abdomen, and one grain of opium every sixth hour.

Second day.—The patient has passed a very restless night, and suffered great pain in the abdomen, which is distended and tympanitic, the tenderness extending over a large surface. He lies in the same position with the legs drawn up; breathing thoracic; skin hot and dry; tongue furred; pulse small, hard, and quick. Mr. Hilton ordered thirty more leeches to be applied to the abdomen, and the opium to be taken every fourth hour.

Same day, nine p. m.—He has passed small quantities of high-colored urine during the day; the bowels have not been opened; he has had no vomiting; abdomen very tense, the tenderness extending over nearly the whole surface; he complains very much of thirst. Forty more leeches to the abdomen; mercury with chalk, three grains, and opium one grain every fourth hour.

Third day.—He has had a better night, and slept two or three hours. The abdomen is very painful and tympanitic; he passed his urine several times, but the bowels have not yet been opened; pulse 120, small and hard; has vomited twice after taking the powder; complains very much of intense thirst. Ordered to have ice to suck, and go on with the opium, but to omit the mercury and chalk, as it was thought that this might be the cause of the vomiting; and as the constitutional influence of mercury seemed necessary to compete with the inflammatory condition, Mr. Hilton ordered mercurial ointment to be used.

At two P. M. he continued much the same. Half a grain of opium every third hour, and mercurial ointment to be rubbed into the groin.

Same day, nine P. M.—Has not quite so much pain in the abdomen; pulse 108, softer; no vomiting since the morning.

Fourth day.—Has passed a much more comfortable night; lies this morning with his legs extended; the abdomen is not quite so tender, he has but little pain, and scarcely any tenderness on pressure; has passed a larger quantity of urine; the bowels have not been opened; he has vomited once, but brought up little except the ice-water; the respiration is slightly abdominal; pulse 112; he still complains very much of thirst. Go on with the mercurial friction and the opium.

Fifth day.—Had a very good night. Abdomen still very tympanitic, but there is much less pain. The bowels have not been opened, and the patient has passed a large quantity of urine. Tongue furred and very dry. Pulse 104, full. He has vomited once this morning; the thirst still distresses him very much. Ordered poppy fomentation to the abdomen, and to go on as before.

Sixth day.—Has slept well, and feels much better; the tympanitis is very little reduced, but he has no pain or tenderness in the abdomen; he has passed his urine freely; the bowels have not been opened; tongue dry, but cleaner; pulse 80, and full; his mouth is not at all sore. To continue the ointment and fomentation, but to have half milk.

Seventh day.—Has passed a comfortable night, and slept well; his bowels have been opened four times since yesterday; he has no pain in the abdomen, which is not quite so tense; tongue dry and cleaner; pulse 84, full and soft. Beef-tea.

Eighth day.—Bowels are very relaxed; the abdomen is less distended, and he has no pain; tongue dry; pulse 80. Repeat the opium and fomentations, and to have beef-tea.

Ninth day.—He feels much better; the abdomen is but little distended, and quite free from pain; the wound on the forehead is healing; tongue moister; pulse 80. Omit the opium.

Eleventh day.—The patient has had a good night, and feels much better; his bowels are somewhat relaxed, but he is not nearly so thirsty; tongue clean and moist; pulse 86. Diet to be improved.

Twelfth day.—He appears much the same; the bowels are still relaxed; he complains of a much diminished sensation in the fingers of the right hand.

Fourteenth day.—Feels better; pulse 96; tongue clean and red. The wound in his forehead is suppurating, and the eyelid swollen and painful. Fifteen grains of carbonate of potass in almond mixture. From this time the abdominal symptoms disappeared; head complications now supervened, and it was thought the patient was beginning to suffer from abscess in the brain and phlebitis.

Fifteenth day.—The pus from the wound having burrowed down to the eyelid, it was let out by means of a lancet.

Twentieth day.—He is not so well to-day; suppuration is still going on in the wound, and there is considerable tumefaction of the surrounding parts, with pain and extreme tenderness. The patient complains of a sense of confusion in his head, and has not recovered sensation in his right hand, but the loss has not been complete.

Twenty-second day.—He was seized with a violent shivering fit this morning, about eleven o'clock, which lasted half an hour, and was followed by a profuse perspiration. His bowels have been opened; no appetite; pulse 92, full and jerking. His head was very painful during the night.

Twenty-fourth day.—Has had no more shivering; the right side of the head and face are considerably swollen, and the eyelid much inflamed. He has a good deal of pain, and great tenderness on pressure. There is also great want of power and sensation in the right arm. Ordered five grains of sesqui-carbonate of ammonia in acetate of ammonia, jalap, and half a grain of acetate of morphia, every night.

Twenty-seventh day.—Had a violent fit of shivering in the afternoon, followed by perspiration; his bowels have not been opened since yesterday. Head very painful, but not quite so much swollen. His right hand still continues partially

paralysed. Wine, six ounces. For the next few days the symptoms varied little, and need no description.

June 1st (thirty-third day).—He is not so well to-day, and he has passed a very restless night; he has more pain in the head; pulse 120; tongue dry and furred; he passes his motions and urine unconsciously. He had two fits resembling epilepsy in the evening.

Thirty-fourth day.—He had two more fits this morning. His left hand is now almost paralysed, and there is partial loss of sensation in the left leg. On protruding his tongue it is thrust to the left side. The pupils are dilated and immovable; tongue dry and brown; pulse 170, and very feeble. Mr. Hilton passed a director into the wound, and made an incision about two inches and a half in length, to expose the denuded parietal bone. On examination, the bone was dead, and, as the patient had now partial paralysis in his left side, Mr. Hilton thought it right to remove a portion of the bone. The operation was performed by means of the trephine, and the dura mater exposed; this was bulging into the hole made by the instrument, but the pulsations of the brain were not strong under it. Mr. Hilton made an opening through the membrane, but no pus was found. An external abscess was also opened upon the scalp behind the right temporal.

Nine p. m.—The man appears decidedly relieved by the operation; his left hand has partially recovered its power; pulse 90; skin cool.

Thirty-fifth day.—He had two fits during the night, in which there was convulsive movement of all the limbs, and the face drawn to the right side. The pupils are active; the left hand has almost recovered its power, but the right continues the same; there is considerable discharge from the wound.

Thirty-sixth day.—He slept badly, and had two or three slight fits during the night; pulse 120, and more feeble; tongue brown and dry; teeth covered with sordes.

Thirty-seventh day.—He has had two or three slight fits since yesterday. The wound continues to discharge; he appears to be gradually sinking; pulse 112, and very feeble.

He died this morning at nine, thirty-eight days after admission.

The examination after death showed the existence of sero-purulent effusion under the arachnoid, extravasation of blood and a small abscess in the substance of the brain under the seat of injury, pus in the longitudinal sinus and purulent deposits in the lungs, and other injuries sufficient to account for death, together with evidences of old-standing disease, as adhesions of the cerebral membranes, trichia spiralis in the muscles, &c.; but we pass over these to notice the state of the abdomen, and particularly of the liver. No evidence of recent inflammation was observed in the abdomen, either in the form of serous effusion or of adhesions; but the cæcum and ascending colon, a small portion of the transverse colon, and the portion of the duodenum seen between the colon and liver, were all of a dark leaden hue, and the adjoining peritoneum, extending on to the abdominal parietes, were also of the same color, but not in any way decomposed. This appeared to be the result of ecchymosis, or sub-serous effusion of blood, or possibly of the staining effect of the blood which escaped from the lacerated liver at the time of the accident. Some parts of this dark surface were mottled with small, black, pigment-like spots, and here and there were seen some small, shriveled, leechbite-like-looking clots of blood adhering to the free surface of this portion of the peritoneum. The exposed and dark portion of the duodenum presented at its most convex part an attenuated appearance, bounded by two defined lines of its muscular fibre, and the peritoneum over it was slightly flocculent in appearance (not smooth, even, and shining, like the surrounding peritoneum); it seemed as if the blow had produced a forcible separation of the circular muscular fibres, and probably a slight tearing of the peritoneum covering this part, and which, if so, had become repaired; but the muscular fibres had not readjusted themselves. The mucous membrane corresponding to this injury had a well-defined, unhealthy appearance, the surface spread out interrupting the continuity of two of the valvulæ conniventes. Upon examining this portion of the duodenum by transmitted light, it was distinctly recognized as much thinner than the structure of the surrounding portion of the same intestine.—Liver: The minute structure of the

liver did not present anything pathological (no secondary abscess), but there was complete evidence of the right lobe of the organ over the duodenum having been torn or broken on its convex surface, the tear extending from the acute margin near the fundus of the gall-bladder obliquely backwards towards the left side, to the length of about three inches; a part of this was adherent to the diaphragm by recent but firm adhesions. At that part of the laceration nearest the acute margin the edges of the wound were separated from each other to the extent of about three-quarters of an inch, and not upon the same level; this separation gradually diminished until it became a mere crack or fissure, losing itself in the substance of the liver. In the gap of the broadest fissure an insular portion of liver structure seemed to have been detached from the surrounding parts at the time of the injury, and to have remained, forming a rounded and abrupt elevation detached from the neighboring textures except at its base, where it rested upon the subjacent liver structure. The lacerated surface was closed in and covered over by recent false membrane, but the rough edge of the laceration separating it from the smooth convex surface of the liver was very strongly and satisfactorily marked. Kidneys large and coarse, there appeared to have been some inflammatory condition of the pelves, as these parts contained some muco-purulent fluid.

Acc. 103.—Case of Strangulation of the Jejunum released by gastrotomy. By Dr. RIDGE

(Pamphlet, 1854.)

All cases of this kind are of great value, but this case is particularly valuable, from the clearness with which it enables the reader to see the ground upon which the diagnosis was established, and the operation undertaken. Dr. Ridge writes:—

CASE.—On the 11th of August last, I was summoned at night, by Mr. John Chapman, of Norwood, to a young gentleman suffering under the most urgent symptoms of obstructed intestine. It appeared that he had not been the subject of any injury to the abdomen, nor of any marked inflammation within its cavity; but it was ascertained from his father after his death, that he was always liable to sickness, with constipation and abdominal distress, which had hitherto subsided under complete abstinence from food and rest, without the administration of medicine, so that it was at first thought he was simply suffering from one of his usual attacks. These facts are worthy of record as helps to the recognition of a congenital lesion, being referable probably to partial descents of intestine through an opening which was found in the mesentery, and spontaneous reductions, promoted by recumbency, the diminution of fulness of the stomach and bowels and of the vessels of the structures concerned, and other influences; they cannot, however, be considered pathognomonic of this peculiar defect, of which I may at once state that I do not at present know, and cannot easily conceive any positive diagnostic signs. Concurrent with these accessions, and doubtless in some measure dependent upon them, was a general delicacy of health, which in other respects had been undisturbed, except by a tendency to headaches the last few years. His frame was slight, but his stature was not disproportioned to his age; and a remarkable wasting and flabbiness exhibited on my visit had taken place to a significant degree since the commencement of the recent illness. For the particulars of this severe manifestation, and its treatment during the first four days, I am indebted to Mr. Mirian Hill, a very intelligent pupil of Guy's Hospital, at whose lodgings in Blackfriars the patient was resident at the period of the invasion, and where he was attended by Mr. Hutchinson of New Bridge Street, before his removal home, whither he was followed by this excellent friend, who continued to watch over and wait upon him with unremitting and most devoted attention.

E. N., a lad about fourteen years old, whilst staying in London shortly after leaving school, was attacked suddenly with a violent pain in the abdomen before retiring to rest, on Saturday, the 6th of August. On that morning he had been much overheated by running after an omnibus, and afterwards exposed for several hours on its roof. The bowels had for some days been inactive, but

otherwise he had enjoyed his usual health up to the moment of seizure. During the night the pain increased, and was relieved by a mustard poultice, after which he slept a few hours.

Sunday morning.—The pain had returned severely. Vomiting, which took place once or twice in the night, had become frequent. The matters cast up were mixed with a considerable quantity of bile; the countenance was anxious; the cheeks were flushed. He was very restless during the cessations of retching; the pulse was full and strong. He complained of pain, beginning on the left of and a little below the umbilicus, and extending thence towards the right side. A dose of castor oil was given, and shortly afterwards rejected. About one o'clock, the vomiting having ceased, and the pain having somewhat subsided, an aperient draught, containing a scruple of carbonate of magnesia and two drachms of sulphate of magnesia, in dill-water, with some syrup of ginger, was taken, and after a short time was cast up, and the vomiting increased considerably; the pain, too, if possible, became more violent. Flannels, steeped in hot water, and applied to the abdomen, afforded some relief.

Sunday evening.—No further attempts had been made to relieve the bowels. On examination of the abdominal surface, nothing abnormal was detected. Pressure upon the abdomen appeared to diminish the pain; the hot fomentations were constantly renewed, and a small quantity of laudanum was sprinkled over them. During the night vomiting was frequent. The ejected fluids were highly tinged with bile, but free from fecal taint. He obtained a few brief intervals of sleep.

Monday morning.—The pain and sickness remained as before. The pulse was thready and weak; the eyes were sunken, and their areolæ darkened. The features generally had a shrunk appearance. No tumor or appreciable source of impediment could be discovered in the abdomen. Three grains of calomel were ordered to be taken every three hours, and the fomentations as before.

Monday evening.—An injection of gruel, with castor oil, had been twice administered, and retained; the calomel was discontinued. In the night he was restless and feverish, but the other symptoms were rather diminished. Another injection was thrown up and retained.

Tuesday morning.—An enema had again been applied, with the addition of some black draught to the gruel. A short time after its repetition at noon, a motion was obtained. Subsequently several evacuations took place, and most offensive matter was passed, together with apple pips, plum-kernels, and other indigestible substances.

Tuesday evening.—The vomiting had abated, and for a part of the day had ceased. He looked better; the pulse was weak, and at times slightly intermittent. At night he wandered a little, and a draught containing morphia was given; but the excitement increased to such an extent, as to require the efforts of the attendants to prevent his getting out of bed, and rushing about the room.

Wednesday morning.—A little tea had remained on the stomach; but the vomiting recurred at intervals; change of posture seemed to bring it on. He was very weak. In the course of the day he was removed, with every precaution, to his parents' home at Norwood, and bore the journey without any attack of retching. This, however, came on at once on his arrival, and symptoms of prostration became more manifest.

He was now placed under the care of Mr. John Chapman, who endeavored to allay the sickness by an effervescing mixture, containing hydrocyanic acid and the tincture of hyoscyamus; and in the evening, and at different periods of the following day, administered pills of colocynth with hyoscyamus, and draughts of the carbonate with small quantities of the sulphate of magnesia, with tincture of henbane, and the compound spirit of ammonia.

When I saw him at midnight, on the sixth day of the attack, or early in the morning of that day week on the night of which he was suddenly seized. I found his countenance and manner expressive of the deepest distress. His hands and fore-arms were livid red and cold, and were cast about him in despair. His neck, exposed by constant and painful jactitation, was dusky, chilled, and damp. The pulse was very small, feeble and quick. He had just vomited a scanty

bilious fluid, which was without any feculent trace whatever: and the last injection returned exhibited no stercoraceous character. The tongue was morbidly red. The abdomen was depressed at its lower half. There was no hernial protrusion, and no prominence perceptible at any spot except to a slight degree just above and to the left of the umbilicus, where much tenderness existed, and whence a fulness extended over the epigastrium; and this was not considerable, but disproportioned to the contracted appearance displayed below a division thus created. Over this upper part of the cavity, there was more, though not great, resonance on percussion, which elsewhere did not afford a tympanitic sound. A teaspoonful of beef-tea and brandy, by which attempts had previously been made to support him, was given, and at once rejected. It seemed that the entire alimentary track was thus kept empty, the obstruction being complete. The steady advance of the symptoms related, with the exception of some relief attending the evacuation of the colon by the enemata, which had since returned unmixed; the free discharge of bile from the stomach, and of all ingesta swallowed; and the absence throughout of the least stercoraceous vomiting, though the bowels were not soon relieved of their old and retained supplies, confirmed my impression that nothing could pass through the strictured part in either direction. The retraction of the abdominal walls in the course of the colon, and in the hypogastric region, led me to reject the large and the lower portion of the small intestines, and to conclude, from the moderate character of the previous symptoms (all of which augment usually in rapidity and severity as the restriction approaches the pylorus itself), that it could not be the duodenum, whose bile was rejected abundantly from its entrance at least, but some part of the jejunum that was obstructed by a cause operating from without the tube, when pain, corresponding more or less in locality, is in general sudden and greatest, and continues or increases with strangulation.

The urine was scanty; and I regarded this, not as diagnostic of an organic lesion, or of its situation, but as corroborative evidence of the extent to which the system had been drained by the urgent vomiting, and the obviously contracted state of by far the greater part of the canal—effects by which the supplies become arrested most when the impediment is nearest the stomach, and, above all, complete. I am not anxious, however, to lay undue stress upon phenomena, present and absent, which induced me to believe that the obstruction was at the jejunum, and not inflammatory or partial, but mechanical and impassable; because such an analysis of a mental process, unless perfect and closely followed, is apt to lead to deception and error; and I have maintained that the grounds of exact diagnosis lie in a just appreciation of all the antecedents that can be obtained, and the entire assemblage of symptoms presented by the individual case, on which the practitioner must exert his personal experience and sagacity.

The only question concerning medicinal agents that could be entertained when I first saw the patient, was the propriety of administering opium, strongly indicated by the extreme irritability of the canal above the obstruction. But looking to the state of inanition which was present, the delay of the circulation at the capillaries, and the diminished power of an ill-supplied heart that seemed already to threaten failure, and the little aid to be anticipated beyond a partial diminution of suffering under evidence of external occlusion, it seemed unsafe to wait the effects of this medicine, when manual interference was likely to prove the ultimate and only source of relief. It was considered carefully whether we might not give it till the morning, or rather the noon of the day which had just begun; and, in the absence of any amendment, then recommend gastrotomy. I could not undertake the responsibility of delay, when twelve hours might terminate life, or place the patient beyond surgical assistance; and the hope seemed so well founded of releasing the intestine by operation, and time only afforded for the remedy which supplied the best chance of saving existence, that, under the conviction that pain and vomiting would readily cease if the passage were set free, and that by nutrition and stimulation thus permitted, the powers might regain their integrity, I deemed it right and just to conclude that the abdomen should be opened as soon as possible, and that the surgeon who had performed this operation with most success should be consulted regarding it. In these opinions Mr. Chapman and Mr. Hill coincided; and within

little more than half an hour from my arrival, the messenger was sent to Mr. Hilton, and brought him in time to operate at 2 A.M. After making his observations, and weighing with his usual caution and judgment the facts and arguments laid before him, and hesitating also somewhat regarding the exhibition of opium, Mr. Hilton fully concurred in the diagnosis formed, and in the propriety of the operative procedure for the relief of the symptoms. The amount of suffering induced, and the appalling characters presented, removed all objections on the part of the patient and his relatives to an exploration in itself alarming, and involving a new cause of shock and inflammation. The room was made warm by the aid of a large fire, the patient was brought to the side of his bed, and the operation was soon completed. Immediately afterwards he expressed himself as suffering less. Some beef-tea and brandy were swallowed, and remained down without producing any inconvenience; and thus a very striking contrast was afforded to his condition, previous to the release of several inches of the jejunum from the mesenteric opening by which it was more or less strangled. Fluid aliment of this kind was repeated at short intervals, without causing sickness or nausea. A grain of opium was given when he was restored to an appropriate position in his bed, with an aspect remarkably improved; and another was ordered after three hours. He continued to take nourishment in comfort, and asked for some coffee the family were taking for breakfast, and was allowed a cup containing an equal quantity of milk. Arrow-root and egg beat up with wine were subsequently given; but symptoms of exhaustion returned in the afternoon, in spite of persevering attempts to sustain him, and he sank gradually at ten o'clock in the evening, after remaining free, to the surprise and satisfaction of his friends, from all the characteristic local and general distress which had undermined his strength so fatally. Some restlessness continued for a short time after the operation, and he occasionally expressed a desire to pass a motion or urine, but no evacuation of either kind is said to have occurred—circumstances easy of explanation by the previous comparatively empty conditions of the alimentary canal, and of the circulatory system, and the impaired functions of digestion and absorption.

No *post-mortem* examination was obtained, but the following extract from notes of the operation, which were taken by Mr. Hilton at the time, will supply the main part of the information which could have been obtained in this way:—

“An incision was made in the median line about three inches long, beginning a little above and to the left of the umbilicus, and extending it downwards. The linea alba was exposed; this was divided vertically, first close to the umbilicus, until the peritoneum was brought into view. A portion of this membrane was pinched up by the finger and thumb, and opened with a scalpel. The finger being introduced into the abdomen served as a director to complete the extension of the opening corresponding with the incision into the skin. The transverse colon, with the great omentum attached to it, were now seen. The colon at near the upper angle of the wound was small; the omentum was free from fat, and spread completely over the small intestines. Both colon and omentum were turgid with bloodvessels loaded with blood, some miliary tubercles were visible in the omentum, and similar tubercles were subsequently observed in the walls of the small intestines. On attempting to draw upwards the omentum, some resistance was felt; and I passed my finger under its left edge, and found a band or cord of membrane, about as thick as a crow's quill extending from the omentum to the spine, amongst the contracted small intestines, and fixed to the left side of the root of the mesentery. This band was divided, after some little trouble, by a sawing motion across it with the finger nail, between one and two inches from its posterior fixed point; and the other end, or that attached to the omentum, was drawn forwards and brought to the external wound. It did not bleed. As this band did not appear to girt very tightly the intestines, and as the symptoms were obviously connected with, or produced by, complete obstruction of some kind, I concluded it could not be the true cause of the urgent symptoms. I therefore passed my finger downwards to examine the obturator foramina; and finding them both free, I then directed my finger upwards towards the beginning of the jejunum on the left side of the median line, and found that immediately

after this portion of the small intestines becomes comparatively free from the spine, where it is continuous with the duodenum, it had passed towards the right side of the abdomen through an abnormal hole in the mesentery, in which position it was tightly retained. I withdrew this portion of intestine from its incarcerated position by steady traction upon it towards the left side of the abdomen, and brought it forwards into view. It was about six or eight inches long, distended, dark-colored, highly congested with blood, but not gangrenous. The hole through which it had passed admitted the ends of fingers easily.

"Sufficient cause for the urgent symptoms having been now ascertained, and remedied as far as possible, the edges of the external wound were adapted by sutures, and a pad of lint supported by plasters across the abdomen. Scarcely any blood had been lost by the operation, and no great difficulty was experienced in this instance in keeping the intestines within the abdomen, as all the intestines below the obstruction, which was near to the stomach, were empty and contracted; but their walls were dark and congested with blood, and, in that respect, their appearance was peculiar and unusual. I suppose this peculiarity is to be explained by the hole in the mesentery being occupied to distension by the incarcerated intestine, and producing pressure upon the superior mesenteric vein, which traverses the root of the mesentery before going over the duodenum, close to the abnormal hole through it, and so led to congestion in the branches of the veins proceeding from the jejunum and ileum; and I may add, as the result of several *post-mortem* operations, that the jejunum quits the duodenum on the left side of the spine about one inch and a half above, and to the left side of, the umbilicus of an ordinary-sized abdomen."

ART. 104.—*On an improved plan of treating Hemorrhoidal Tumors.* By Mr. LEE, Assistant-Surgeon to King's College Hospital.

(*The Lancet*, Feb. 18, 1854.)

This paper commences by a reference to the plan of applying the strong nitric acid to certain kinds of hemorrhoids, which had been introduced by Dr. Houston, of Dublin. Shortly after Dr. Houston's paper had appeared in 1843, he had tried the effect of this plan of treatment in other kinds of hemorrhoids, and had published the results of his experience in 1848. This mode of treatment had now become very general, and the danger at present was lest a really useful remedy should be brought into disrepute by being indiscriminately applied. The object of Mr. Lee's paper was therefore to distinguish the cases in which this mode of treatment was applicable from those in which it was not, and to describe the plan which he had adopted when surgical interference was deemed necessary in the latter class of cases. The instances to which the application of nitric acid was adapted were those where hemorrhage constituted the prominent symptoms, and those in which a protrusion of unalterable mucous membrane had taken place. The cases in which the application of the strong nitric acid was not sufficient were those in which the submucous tissue had become thickened by inflammatory deposit, or in which the mucous membrane had become hardened and altered in structure from long exposure. In the latter class of cases, when any operation was called for, the plan recommended was as follows:—The patient was first directed to protrude the affected parts. The hemorrhoid or a portion of the relaxed mucous membrane, was then embraced by a kind of broad forceps, called a "clamp," and the part which projected beyond the blades of the clamp were cut off with a sharp knife curved upon the flat. When this was done, the clamp still embracing the base of the tumor prevented the cut surface from either retracting or bleeding. The operation was then completed by touching the cut surface either with the nitric acid or with the actual cautery. The clamp is then removed, and the parts returned to their natural position. In the cases operated upon no trouble from bleeding had ever been experienced after the application of the cautery, which gave little pain, and was for this operation to be preferred to the use of the nitric acid. In cases where the parts to be removed could not be sufficiently protruded, the operation was very satisfactorily performed by means of a rectum speculum. The instrument has a slide upon

one side, which may be removed. This is made to fit accurately into grooves, so that by being withdrawn to a greater or less extent, a corresponding aperture is left in the side of the instrument. When the speculum is introduced the slide is partially withdrawn, and the instrument is moved about until the tumor or portion of mucous membrane requisite projects through the aperture. The slide is then closed upon the point to be removed, which is thus firmly held between the sides and the rest of the instrument; the portion of tumor or of mucous membrane which projects into the speculum is then removed with a long narrow knife, and the cut surface is touched with the actual cautery as in the first instance. It is not requisite or even desirable to destroy any depth of surface with the cautery. The object of applying it is simply to prevent hemorrhage, which it effectually does. The advantages of this plan of operating in cases where the application of the strong nitric acid was not sufficient, were:—

1. That it is less powerful than any other plan equally efficacious.
2. That it is safer than the common operation now in use.
3. That it requires less confinement, and the patient is sooner convalescent than after the application of the ligature in the ordinary way.

ART. 105.—Cause and Treatment of Prolapsus of the Rectum. By M. DUCHAUSAY.

(*Archiv. Gén. de Méd.*, Sept. 1853.)

According to M. Duchausay the cause of this complaint is loss of power in the sphincter ani muscle, and the operations by incision and cautery act by stimulating the contractibility of the muscle, and not by the physical shrinking which eventually takes place in the new tissues which are formed in order to repair the wounds caused by the operation. The immediate relief to the prolapsus, which sometimes follows the use of the knife or the cautery, is considered to be a proof of this position. M. Duchausay, therefore, recommends a very slight application of the cautery, or the endermic application of strychnia in the neighborhood, as a likely means of rousing the dormant irritability of the muscle. He also relates a case which is very deserving of attention.

CASE.—A girl, æt. 15, under the care of M. Guersent, at the Hôpital des Enfants, was the subject of M. Duchausay's experiment. She had had severe prolapsus for four years; the bowel coming down as much as four inches at each evacuation. For a month after her admission she was treated by laxatives, and relieved—for the bowel did not protrude to more than half its usual extent. Strychnia was then employed endermically as near the anus as practicable—on the first day one-sixteenth of a grain, on the second, one-third, on the fourth, one-third, on the fifth, one-half, and on the sixth (the last application) half a grain. The result was, that on the day after the first application, there was no evacuation; on the two days following, the bowels acted once, and the rectum protruded very slightly; and during the next thirteen days, the bowels acted several times without any protrusion at all.

ART. 106.—The treatment of Anal Fistulæ by iodine injections. By M. BOINET.

(*Gaz. Méd. de Paris*, Dec. 24 and 31, 1853.)

M. Boinet relates several cases for the purpose of showing the value of this kind of treatment—a treatment which acts by the adhesive inflammation which it excites, and which was first recommended and practised by Mr. Charles Clay—and from these cases he considers himself entitled to conclude that this treatment possesses many advantages over the one commonly in use. It is less inconvenient and less dangerous. It does not necessitate a long confinement to bed and daily dressings. It is comparatively free from pain, and it is easy to carry into effect. It is applicable in all cases, whatever the form of the sinus or sinuses, and particularly in those cases in which the knife cannot be used without difficulty or danger. It does not prejudice the position of the patient, even where it does him no good. For these reasons M. Boinet concludes that it ought always to be tried before having recourse to the knife.

The preliminary precautions are similar to those which are taken in the ordinary operation, viz., to empty the bowel by injections or by other means, and so to regulate the diet that the patient will not require to have a stool until the new adhesions have had time to form. The ordinary injection is composed of half a drachm of iodine, fifteen grains of iodide of potassium, and two ounces of water, or thereabouts; a stronger injection, of a drachm of iodine, fifteen grains of iodide of potassium, and about an ounce and a quarter of water. One or two teaspoonfuls of either of these solutions is injected by means of a glass syringe, with a nobbed canula, a finger having been previously placed upon the opening of the rectum so as to confine the injection to the bowel (if such an opening exist), while at the same time precautions are taken to prevent it from flowing away from the outer opening, for at least five or six minutes. This operation is repeated every five or six days, or at shorter or longer intervals, according to circumstances. Sometimes a single operation has sufficed for the cure.

ART. 106.—Treatment of Anal Fistulæ by Injections of Diluted Tincture of Rhatany.
By M. ROTTEÉ.

(*Jour. des Connaiss. Méd.-Chir.*, Sept., 1853; *Gaz. Hebd.*, Nov. 11, 1853.)

M. Rottée's plan is to give an emollient enema twice a day, so as to clear out the bowel effectually, and afterwards to inject into the sinus a small quantity of a mixture, consisting of one part of the alcoholic tincture of rhatany to sixteen parts of rose-water, increasing the strength of the mixture after a time, or using it from the first of double this strength in the case of persons who are of a lax lymphatic constitution. He relates three cases, but so cursorily, that it is impossible to form an opinion respecting them. It appears, however, that he had to persevere in his efforts for several weeks before a cure was effected; and this fact is enough to do away with the necessity of inquiring more particularly after the cases.

ART. 107.—A case of Hernia of the Bladder into the Scrotum. By Mr. PILCHER.

(*Transactions of the Pathological Society*, vol. iv., 1853.)

Mr. Pilcher remarks upon the similarity between this case and one which fell under the notice of Mr. Keats, as quoted in Mr. Coulson's work, on *Diseases of the Urinary Organs*. He has been unable to collect any statistical account of the frequency of these herniæ, most authors only mentioning them as of rare occurrence.

CASE.—N. M., æt. 80, a footman, at the age of 16, suffered from a hernial protrusion in the left groin. Not finding himself inconvenienced, he neglected it, and never had a truss applied. He enjoyed excellent health up to ten years since, when the hernia suddenly increased, extending into the scrotum. At this time a swelling appeared in the right groin also; he then applied to a medical man, who told him that his bladder had come down in the rupture on the right side. Eight years ago, the tumors having both increased to a great extent, causing him much inconvenience from their size, he applied at the Middlesex Hospital, but he was told he could not be benefited by treatment. His general health was not affected; the bowels acted freely, and he soon learned, by leaning his head against a wall, straining and pressing the right scrotum with his hands, to evacuate his urine. He has no stricture, and never suffered from retention. The symptoms remained the same up to the present time, excepting that the swelling continued to increase; that on the right diminishing somewhat after passing water, which flowed from him in a thin stream, in small quantities, and frequently. He always had to rise early in the morning to void his urine. On the 4th of this month (October, 1852), on getting out of bed as usual, he found himself unable to evacuate the contents of the bladder; he took some gin-and-water, but still continued unable to pass his urine. Fearing the expense, he did not apply for medical assistance until the 7th instant; on the 8th, the usual medicines having failed to relieve the retention, a gum-elastic catheter was

passed by Mr. Grange, and a small quantity of water removed, after which he expressed himself relieved.

On the following day (the 9th) he was seen by Mr. W. Bryant; the catheter was again introduced, and more than two quarts of urine were drawn off. There was considerable difficulty in introducing the instrument, especially from the fact that all the ordinary gum catheters were about four inches too short. He had suffered no more inconvenience from the distension till the 11th, when the bladder again became much enlarged. Mr. Lane was now called in consultation. He with difficulty succeeded in drawing off, with a gum catheter, a considerable quantity of urine. The patient's health now appeared to be suffering from the shock on the system of one so advanced in years; his appetite failed and his spirits sank.

On the 14th, Mr. Pilcher accompanied Mr. Lane, who was again requested to see him. The scrotum presented a swelling of unusual magnitude (measuring nearly twelve inches from side to side), the skin being tense, and the penis completely retracted, the only indication of its existence being a depression like that of the umbilicus. The swelling on the left side presented an irregular appearance, and measured 14 inches in circumference; the various convolutions of the contained intestines, as well as their peristaltic movements, were distinctly visible through the attenuated coverings of the hernia. On the right side was seen also a considerable swelling, somewhat less than the left, of a more regular pyriform shape, looking very tense, feeling very smooth on its surface, distinctly fluctuating. On application of the taxis, a considerable portion of the contents of the left scrotum could be returned into the abdominal cavity; not so the right, for on the least pressure the patient complained of pain, and desired to pass his water. The testicle could be distinctly seen, and felt as a rounded and movable projection on the lower and fore part of the tumor. Mr. Lane this time attempted to introduce a longer and somewhat larger gum catheter; but from its want of pliability, the introduction could not be accomplished. The shorter and more pliable instrument before in use was then tried, and a larger quantity of dark, extremely offensive urine, with some admixture of blood, was drawn off. A plug was put into the catheter, which was left in the bladder. During the afternoon the patient became worse; by the evening he had become delirious. He had pulled the catheter out of the bladder. Coma soon set in, and he sank on Saturday the 16th.

The *post-mortem* examination was performed by Mr. Grange and Mr. Pilcher on Monday. Decomposition had somewhat advanced. The swelling of the scrotum was more flaccid than during life. Time and other circumstances, prevented a careful or minute dissection, the examination being conducted by candle-light in a small room. The prostate was much enlarged, and firmly held down by its ligaments in its proper position in the pelvic cavity. The structure of the bladder appeared much altered. The protruded portion consisted of about two-thirds of the viscus, capable of containing about 50 ounces of water. At the situation of the inguinal canal, there was found an hour-glass contraction of the organ, the communication between the two portions being about one inch in diameter. The pelvic portion was capable of containing about 20 ounces of fluid, and was displaced forwards and to the right side. Both the ureters opened into this part. The urethral opening at the neck of the bladder was much dilated, being large enough easily to admit the finger. The epigastric artery was situated at the inner side of the neck of the hernia. Mr. Pilcher concluded from this, that it must have been an old oblique inguinal hernia, in which the internal ring had been dragged down to the external by the constant weight. The protruded portion of the viscus was firmly adherent to its sac.

ART. 108.—*Clinical remarks upon Hydrocele.* By M. VELPEAU.

(*Gaz. des Hôpitaux*, Feb. 11, 1854; and *Medical Times and Gaz.*, March 4, 1854.)

The subdivisions of hydrocele, as established by modern research, have been recently illustrated by M. Velpeau. A female in La Salle Sainte Catherine was the subject of hydrocele in an old hernial sac. The tumor was first evacuated

by puncture; but the fluid having speedily reaccumulated, an incision was made, which exposed a piece of omentum constituting the hernia. The patient left the hospital cured.

A man in La Salle Sainte Vierge had undergone, six weeks ago, an operation in another hospital for hydrocele of the tunica vaginalis. Severe inflammation, attended by swelling, ensued, and for three weeks poultices were constantly applied. As the tumefaction was subsiding, the patient quitted the hospital of his own accord; but he soon afterwards applied for admission into La Charité, where M. Velpeau found, upon examination, that behind the testicle, at the entrance of the spermatic cord, there were two small fluctuating tumors. He punctured them both, and there issued a small quantity of perfectly transparent fluid. The cure was permanent. It is probable that this patient had both hydrocele of the tunica vaginalis, and two cysts at the extremity of the spermatic cord, which had been unobserved until the former had been removed by operation.

The epididymis is often the seat of cysts, as has been pointed out and described by M. Gosselin. But hydrocele of the tunica vaginalis is by far the most common form, and the fluid may be contained either in one sac, or in several smaller compartments, formed by organized bands of lymph passing between the opposite surfaces of the tunica vaginalis. M. Velpeau relates a case in which the testicle was adherent to the front of the sac, and had been punctured twice by the trochar.

The spermatic hydrocele contains a turbid milky fluid, in which, upon microscopic examination, spermatozoa are found. The encysted hydrocele of the cord contains a limpid fluid as clear as rock-water.

The color of the fluid in the tunica vaginalis is usually pale-straw or citron, but it may be of deeper hue. M. Velpeau relates a case in which, from a tumor punctured every two years, there issued a green-colored serum, containing cholesteroline. He believes that it is most commonly the coloring matter of the blood, which mixes with the serum, and refers to the frequency with which a blow converts a hydrocele into a hematocele; but he confesses that this transformation may ensue without any appreciable cause. The hematocele may become a hydrocele by the absorption of the coloring matter of the blood; and a knowledge of the different phenomena which occur during this process, explains the variety of diagnosis often made at different epochs upon the same individual, of which M. Velpeau relates a striking instance. A hydrocele of the tunica vaginalis rarely disappears spontaneously. It happens, however, when the tunica bursts, and the fluid becomes infiltrated into the areolar tissue of the scrotum. In other cases the disappearance cannot be thus explained. M. Velpeau relates two cases in which, having examined the tumors attentively, having ascertained both their transparency and fluctuation, he fixed the day for operation, when, upon the patients presenting themselves, there was no trace of the disease.

The different modes of treatment, incision, cauterization, seton, &c., are abandoned, and puncture, followed by injection, is employed almost exclusively in France. Cures are obtained, whatever may be the irritating liquid employed; but the injection by iodine possesses an incontestable advantage, because it causes no inflammation nor sloughing, should it escape into the areolar tissue of the scrotum; and because, from the investigations of M. Hutin, it is now ascertained that cure is obtained without obliteration of the sac of the tunica vaginalis.

ART. 109.—*On the local application of Lunar Caustic to the internal surface of the Tunica vaginalis for the radical cure of Hydrocele.* By Dr. PARKER, Professor of Surgery in the College of Physicians and Surgeons, New York.

(*New York Journal of Medicine*, Jan., 1854.)

Dr. Parker thinks that this plan of treatment produces less inflammatory excitement, and is more successful in its results, than any which has yet been tried; and he relates four cases in illustration, of which the subjoined is one.

CASE.—Mr. J., æt. 60, an Irishman, a waiter by occupation, unmarried, had

always enjoyed good health until April last, when he discovered an enlargement of the left scrotum. It had never previously been the seat of any difficulty. The tumor increased so rapidly, that within three weeks it had become a great annoyance, and prevented him, simply from its size, from continuing at his business. At this time I first saw him, and such had been the rapidity of the growth of the tumor, that it had been mistaken for hernia, and he was wearing a truss. On examination, however, its true character, that of hydrocele, was made out without difficulty; a trocar and canula were accordingly introduced, and a large quantity of water withdrawn, and the patient dismissed. In about three weeks he again applied for relief, and I proceeded to operate for his radical cure in the following manner: after drawing off the fluid contents of the tumor in the ordinary way, I introduced through the canula a common probe, the end of which was coated, for half an inch or more, with nitrate of silver. This extremity, thus charged with the caustic, was carried lightly over the serous surface of the tunica vaginalis, in various directions, and then removed. The patient complained of some pain during this part of the operation. He was directed to keep quiet for the pain and swelling consequent on the application of the caustic, and applying cooling lotions, should the inflammation be at all severe. He returned home, but as he suffered but little pain, and the swelling was slight, and as his services could not well be spared, he continued about his business without any interruption. The pain lasted three or four days, when it ceased altogether, leaving the scrotum of its natural size. In this condition it has since remained, with no symptoms of a return of the hydrocele, the cure having been complete."

ART. 110.—*Case in which a Gutta-percha Bougie was broken off in the Urethra.* By Dr. J. MASON WARREN.

(*American Quarterly Journal of Medical Sciences*, Jan., 1853.)

Dr. Warren relates a case, in the *Records of the Boston Society for Medical Improvement*, in which this accident occurred, and much difficulty was experienced in extracting the fragment. This is not the first case of the kind (*vide Abstract*, vol. xvi.), and we therefore call attention to the fact for the purpose of showing the impropriety of employing bougies made of this fragile material.

ART. 111.—*The cases in which Urethrotomy may be advantageously employed.* By Mr. ERICHSEN, Surgeon to the University College Hospital.

(*Art and Science of Surgery*, 8vo.)

These cases are thus described :

" 1. In very old dense cartilaginous strictures, often of traumatic origin, which admit an instrument with great difficulty, and cannot be dilated beyond a certain point, owing to the conversion of the urethral structures into a kind of dense fibrous, almost cicatrisial tissue, that neither admits of expansion nor of absorption by the pressure of instruments, and in which a considerable extent, half an inch or more, of the urethra is involved.

" 2. The same kind of stricture complicated with fistulæ in the perinæum or scrotum, with perhaps considerable plastic infiltration of these parts.

" 3. Very tight stricture, accompanied by excessive sensibility of the urethra, in which each introduction of the instrument is attended by intense suffering, spasmodic movements of the limbs, and rigors so that the patient cannot be induced to submit to a proper course of bougies.

" 4. Very elastic, though perhaps narrow strictures, that can be dilated readily enough, even up to the admission of full-sized instruments, but which, when the treatment is discontinued, immediately begin to contract again, so that the patient is never out of the surgeon's hands, and sees no prospect of cure."

ART. 112.—*A remarkable case of Spontaneous Recovery after a very severe injury of the Bladder.* By Dr. DUNSMORE, Surgeon to the Royal Infirmary, Edinburgh.

(*Edinb. Medical and Surgical Journal*, Jan., 1854.)

This case is another example of a most severe wound having been recovered from by the mere *vis medicatrix naturæ*, the patient having applied for no medical assistance until more than six months after the accident.

CASE.—William Howell, æt. 53, bookbinder, admitted 18th October, 1853. He states that he enjoyed excellent health till the commencement of his present illness in September, 1842. Having slipped while stepping from the Bass Rock into a fishing-boat, he fell backwards on the "thowl-pin," which entered the perinæum immediately at the posterior margin of right side of the anus. Although much hurt, he was able to raise himself and take his seat in the boat without acquainting his companions of the accident. Very little hemorrhage occurred, and, although faint, he was still able, when the boat landed, to walk home, a distance of a quarter of a mile, without assistance. Severe febrile symptoms, however, soon appeared, and he was confined to bed for three weeks with inflammation "of the lower part of the bowels." After being confined for eight to ten days, a large abscess formed in the perinæum, and burst externally at the seat of injury, a quantity of dark fetid pus escaping, with great relief to his sufferings. Three days afterwards he observed, while at stool, that part of his urine escaped through the opening in the perinæum, and that air was mixed with the urine which passed along the urethra.

The discharge of pus and urine through the perineal wound continued when he emptied the bladder, till the following March (five months), when the opening ultimately closed. By this time he had recovered his general health, and was free from all suffering except after considerable exercise, when he had frequent calls to make water, accompanied with hot burning pains in the region of the bladder; at these times he observed that the urine was mixed with blood. A few weeks after this, and about six months from the date of the accident, he for the first time observed the stream of urine suddenly interrupted, as if by some body "plugging up the passage." This having occurred frequently, and being troubled at the same time with lancinating pains in the perinæum shooting along the penis, he consulted his medical attendant, who sent him to the Royal Infirmary. His bladder was examined by Mr. Syme, but no stone could then be detected. When he applied at the hospital his urine appears to have been free from blood, but to have deposited, after standing, a copious sediment of ropy mucus or pus. On several occasions he passed by the urethra one or two elongated friable bodies like splinters of wood, white, rough on the surface, and easily breaking down under the finger.

He continued in much the same state till about two and a half years before the period of his admission, when, being confined to bed for seven weeks with fracture of the tibia, he felt greatly relieved, being free from all pain, and able to pass his urine without any difficulty or uneasiness. On resuming his employment his former symptoms returned with great severity; he had frequent desire to empty the bladder, which was always accompanied with pain; the stream was frequently and completely obstructed, and the urine was mixed with pus and blood after the slightest exertion. About six months elapsed before he was sounded; a calculus was then detected; but having refused to submit to an operation, palliative treatment was had recourse to. His sufferings continued unabated, and lately became so much aggravated that he applied to Dr. Dunsmore to have the operation performed.

The operation was performed, and a stone, *having for a nucleus a portion of the drawers and trousers which the patient had worn at the time of the accident*, was extracted. Recovery was uninterrupted and complete.

(C) CONCERNING THE UPPER EXTREMITY.

ART. 113.—*Case of Dislocation of the Humerus on the Dorsum of the Scapula.*

By Mr. R. U. WEST, of Alford.

(Association Medical Journal, Jan. 6, 1854.)

Dislocations of the os humeri on the dorsum of the scapula are very rare; so much so, that Sir Astley Cooper, in his work on dislocations, says that there were only two such cases met with in Guy's Hospital during thirty-eight years. It would seem, therefore, that the accident can arise only from some peculiarity in the kind of violence which causes it, and not from the action of any particular muscles on the bone after it is thrown out of the glenoid cavity. The manner in which the accident was caused is not given in the two cases referred to by Sir Astley; but there are three other cases communicated to him by provincial practitioners, and published in his work, which seem to prove this; notwithstanding that one of the writers, Mr. Coley, of Bridgenorth, thinks that the effect is produced by the action of the latissimus dorsi and teres major on the bone. In fact, the very great frequency of the dislocation into the axilla, compared with that of the dislocation either backwards or forwards, must prove that the muscles invariably pull the arm downwards, when no other force gives a different direction to it. Surely, when the muscles are left to themselves, the pectoralis major would have its influence as well as the latissimus dorsi.

"CASE.—About three months ago, I met with a case of the dislocation backwards, and it occurred in a way which may serve to illustrate this point. My patient, a farmer, residing about a mile from this place, was standing alone in his yard, where some additions to his house were being erected. Four-and-twenty deal boards were piled crosswise over a pole, which was supported at each end by a triangle; and as Mr. — stood with his back towards one of these triangles it suddenly gave way; the pole dropped to the ground, the boards slid off the end of it, and the whole mass falling on him threw him on his face to the ground. The intersecting portion of the boards caught him on the back and held him down, while his head escaped from being crushed by being in the interval or interstice above; but the right shoulder, which was in the interval on one side, was on that very account severely injured, the elbow catching the ground, and the head of the humerus being thus driven directly backwards. On my arrival, about an hour after the accident, I found Mr. — suffering great pain both in the back and shoulder; and there was so much shortening of the upper arm, that before his coat was taken off I thought the humerus must be broken. But, on stripping him, the nature of the case was at once evident, from the great shortening of the limb, a soft, yielding, thickened, fleshy mass under the acromion, and, plainly perceptible under the spine of the scapula, a hard, round lump, which could be made to rotate by grasping the elbow. There were some ribs broken, and the patient was collapsed and faint, so that I had no difficulty in reducing the dislocation, which I effected by means of a couple of jack towels and the assistance of two men from the yard. Mr. — had scarcely any pain in the shoulder after the reduction, and recovered very rapidly from all the effects of his accident.

"This dislocation is easily detected and easily reduced, and the round lump on the dorsum of the scapula is very satisfactorily seen to disappear at the moment when the peculiar snap is heard which announces the return of the head of the bone into its normal situation."

(D) CONCERNING THE INFERIOR EXTREMITY.

ART. 114.—*On Sciatica, and its Treatment by Croton Oil.*

By Mr. HANCOCK, Surgeon to Charing Cross Hospital.

(The Lancet, March 4 and 11, 1854.)

In Mr. Hancock's opinion, the cause most productive of sciatica is irritation of the nerve within the pelvis, either from loaded colon or cæcum, or from

tumors formed within that cavity, and acting mechanically upon the nerve in that situation. A loaded colon appears to be the commonest cause, and this may be the reason why sciatica is most commonly seated in the left thigh. Rheumatism he believes to be quite an exceptional rather than a common cause.

The plan of treatment recommended is to thoroughly purge the patient with small doses of croton oil, combined with blue pill, henbane, and compound extract of colocynth, and at the same time to administer three-grain doses of quinia thrice daily. Local applications are spoken of as injurious rather than beneficial.

Mr. Hancock relates five cases as examples of several which had fallen under his notice, which cases yielded immediately to the treatment recommended, after having previously resisted the ordinary treatment for rheumatism. These cases are very important.

"**CASE 1.**—Mrs. W——, the wife of a clergyman residing in Essex, consulted me six years ago for sciatica in the right leg, of nearly two years' duration. Her sufferings were most intense, and she was worn almost to a skeleton by their duration and want of rest. She attributed the attack to cold caught by getting wet through, and had during the previous two years been treated accordingly by colchicum and calomel and opium internally, whilst locally she had been cupped, blistered, and counter-irritated by various applications, such as veratria, tartarized antimony, iodine, and hydriodate of potash, and croton oil, but without deriving any benefit. For the last six months she had taken morphia to such an extent that she only found relief by doses of three grains each, taken at repeated intervals when the paroxysms of pain were urgent. Her tongue was much loaded, her breath offensive, and appetite bad; but she assured me she did not require purgative medicine, adding that she could not bear even the mildest form, she was so extremely delicate and it acted so violently. Upon carefully examining the large intestines, the cæcum and ascending colon appeared distended, and yielded a dull sound on percussion. Under these circumstances, I concluded this was a case depending upon local irritation within the pelvis, and not upon rheumatism or inflammation of the nerve, and therefore ordered—croton oil, one minim; blue pill and extract of hyoscyamus, each four grains; compound extract of colocynth, eight grains; to be divided into four pills, two to be taken that night: that she should gradually diminish the quantity of morphia until she left it off entirely, and abstain from solid food until I again saw her, which I did on the day but one after. I then found her much relieved, but extremely angry at the violence of the medicine, which had acted very efficiently, dislodging a large quantity of hard, lumpy, dark-colored, feculent matter. The pain, though diminished, was still very great, but she described it as having assumed the sensation of a severe bruise rather than the intense, sharp, burning pain which she had hitherto experienced. Her bowels had not acted for twenty-four hours, and (as up to the time of their ceasing to act the evacuations were not simply fluid, but continued to present scybalous matter) I prevailed upon her to repeat the pills at night, assuring her that when they ceased to meet with obstruction they would act less powerfully.

"After another interval of a day I again saw her. She was then (and she expressed herself) much better. The acute pain had entirely left her, and the sensation of bruising was so much diminished that she described it as more like numbness than anything else. She assured me she had not been so well for months. Her tongue was cleaner, abdomen softer; she could now walk across the room without pain, and had only taken her morphia once on the preceding day; her pulse was weak and her skin cold and clammy. I ordered three grains of the sulphate of quinia every four hours, and the morphia to be discontinued entirely. Under this medicine she rapidly recovered; the sensation of numbness disappeared, and she returned home cured after being in London for a fortnight.

"**CASE 2.**—Mrs. G——, residing at Brook Green, consulted me for lumbago and sciatica of the right leg. She had suffered for three months, and had been told it depended upon rheumatism, and was treated accordingly by cupping; blisters, warm bath, colchicum, &c., but without experiencing any relief. I pre-

scribed the croton-oil pills as in the preceding case. She took them twice and was cured.

"CASE 3.—The Rev. E. C—— consulted me for sciatica of the right leg, of two months' duration, but very severe. He is a very talented strong-minded man, and fond of athletic exercises; but he describes the pain as so intensely severe as to be almost beyond the power of endurance, and that it entirely deprived him of rest, the only easy position being that of sitting; that when he endeavored to stand upright, or to straighten his leg, he could scarcely refrain from calling out. He was first attacked with lumbago after riding in an open gig: but being engaged to shoot the following morning, he applied a large mustard poultice over the loins, which relieved him so much that he thought himself sufficiently recovered to keep his appointment; but after walking for about an hour, his sufferings became so great, he was obliged to return home and go to bed. He placed himself under the care of a gentleman, who gave him steel and quinia, and citrate of iron with quinia, and also applied chloroform blisters from the hip to the external malleolus by means of strips of lint dipped in the chloroform, and retained by bandage over the course of the nerve. This produced a broad stripe of blistered surface down the entire length of his leg, but increased rather than diminished his sufferings. He sought other advice, but with little benefit. I ordered him the croton-oil pills, as in the other cases. In two or three days he wrote up from his residence, about twenty miles in the country, that he had taken the medicine, but without deriving any benefit, and without its acting as he supposed I expected it would. I therefore doubted the drugs, and consequently had the same prescription prepared in London and forwarded to him. These acted most powerfully, and with an entire cessation from pain on the following day. The pain, however, returned in a day or two, when he repeated the pills, which acted briskly, though not so much so as on the first occasion; but he wrote me up word that the pain in the loins and around the hip was almost gone, but that he still suffered from a feeling of bruising in the calf of his leg, and was extremely weak. I ordered him sulphate of quinia, three grains, three times a day. This, however, did not afford him the relief I had observed in other cases. His bowels became confined and the pain increased, as did the sensation of weakness, in consequence of which he begged I would not order the pills to be repeated. I ordered compound guaiacum mixture, a wine-glass full, thrice daily. This acted most satisfactorily; the bowels became completely evacuated, though for several days he continued to pass scybalæ until they ultimately disappeared, and he became entirely free from pain, and could stand up and extend the limb without the slightest inconvenience, complaining only of general debility. I now ordered him sulphate of quinia in one-grain doses, and he rapidly got well, three weeks from the time I first saw him.

"CASE 4.—Captain C—— consulted me on December 30th, 1853, for lumbago and sciatica of twelve months' duration. Complains of pain in lower part of the back, extending towards the right hip and down the leg, and increased by fatigue. He attributes the attack to a severe fall on the flat of his back, after which he experienced symptoms simulating ague, rigors, sweats, debility, total loss of appetite, nasty taste in his mouth, and so much nausea that he could not touch anything. He says that when these symptoms were most severe the perspiration smelt very sour and sickly. Upon questioning him, I found that he had suffered from stiffness, like lumbago, after stooping, for six months before the accident. His bowels act regularly, but his motions are generally relaxed, unless he is balked, when they immediately became confined; sleeps badly; appetite moderately good, though very capricious; thinks he can eat largely, but is soon satisfied, and feels full after eating; easily tired, but refreshed after an hour's rest; had yellow fever slightly six months ago; urine natural; pain relieved by pressure in course of nerve; is most easy whilst lying on either side with his knees raised; the pain much increased when he lies on his back and endeavors to extend his legs. He has been treated for rheumatism and ague, having taken colchicum and quinia in large doses, and been blistered and rubbed with various applications. Ordered croton-oil, with mercurial pill, extract of hyoscyamus, and compound extract of colchicum.

" January 13th.—Better. Medicine acted very powerfully ; says he felt better directly afterwards ; has been much occupied, and had a great deal of exertion, but suffered so little pain that it scarcely attracted his notice. The medicine dislodged a large quantity of scybalæ. Ordered compound aloes pill, five grains, one every other night.

" 27th.—I again saw this gentleman, he told me he had been entirely free from pain for several days.

" CASE 5.—C. A——, Esq., consulted me in November, 1853, for sciatica of the right leg. Had been ill four months, and treated by colchicum, blisters, &c., with but slight relief. Was bent nearly double with pain, extending down the course of the nerve and in the lumbar region. The pain is most severe at the knee, foot and calf of that leg ; gets no sleep and feels very weak, though his appetite is good. To take croton-oil pills, two on alternate nights.

" Came again in four days. Says that the first day after he took the pills he was much better, but thinking to cure himself more rapidly, he had, contrary to advice, repeated them on the following night, when they acted so violently that he was completely prostrated ; his pulse was irritable and the pain not so well as on the day before ; his skin was covered with cold, clammy perspiration. Ordered, disulphate of iron, three grains, three times a day.

" I saw no more of this patient, but a few weeks afterwards his brother came to consult me for a similar affection, and told me that he had rapidly recovered under the quinia.

Mr. Hancock recommends a careful examination before instituting this treatment, so as to be sure there is no irremediable pelvic tumor, in which case the treatment is, of course, contraindicated.

ART. 115.—On Excision of the Knee-joint ; by (1) Mr. JONES, of Jersey ; (2) Dr. KEITH, of Aberdeen ; and (3) Mr. ERICHSEN, of University College.

(1) *The Lancet*, April 22, 1854 ; (2) *Edinb. Monthly Journal*, April, 1854 ; and (3) *The Lancet*, March 18, 1854.

During the present session Mr. Jones, of Jersey, has brought a paper on this subject before the Royal Medical and Chirurgical Society ; and two new cases have been recorded,—one by Dr. Keith, of Aberdeen, and the other by Mr. Erichsen, of University College. On the occasion of the reading of Mr. Jones's paper, Mr. Ferguson took occasion to make some very important remarks. "When I began to entertain the question of reviving the operation for excising the knee-joint, I was," said he, "somewhat prejudiced against it, and my subsequent experience respecting it is certainly not very favorable. But now a number of cases had been brought forward, which showed that the success attending the operation was greater than that of amputation of the thigh when performed for accident or disease. It was worth recollecting that the proceeding was originally proposed by the Moreaus as a new plan of treating caries. They had a success equal to more modern surgeons. It has been shown to be the only cure for that disease, which was taken away altogether by the operation, and had no greater chance of return than a benign tumor. The object of resection, however, was not only to remove the caries, but to save the necessity of amputation. The latter proceeding had always been regarded as an opprobrium to surgery, and there was now ample proof that resection, in a vast number of cases, would set aside this opprobrium by saving the affected limb. On these grounds the operation was one of vast importance to surgeons. It was well known that resection of the elbow-joint was usually as successful a proceeding as amputation of the arm, and it had been well said, that 'amputation of the arm for elbow-joint disease was more a disgrace than an honor to surgery.' He (Mr. Ferguson) did not recollect a single case of disease of the elbow-joint which could not have been as well treated by resection as amputation ; and on looking back he could only regret that so many operations of the latter kind had been performed. Resection of the knee-joint was an older operation than that of the elbow, and also as successful. It was remarkable that this proceeding should have remained in abeyance for so long a period, until he revived it, seeing that three out of the six cases operated upon in the early part of the present cen-

ture had been successful. This might be accounted for, however, by the fact of more brilliant operations in surgery attracting the notice of surgeons,—such, for instance, as Hunter's operation for aneurism, which was introduced about the time that Park and Moreau first performed excision of joints. Surgeons were now less zealous in tying large arteries than formerly, and it was thought better, in many instances, to resort to older plans. Great objections had been raised in some quarters to resection of joints. When Moreau sent his account of resection of the elbow-joint to the Academy of Surgery at Paris, it was received with a storm of disapprobation. The operation on the knee-joint had been opposed, particularly by two surgeons, but the results of the cases now before the society would enable the profession to judge of the real value of the operation. That proceeding was not to be judged of by the experience of a single individual, but by a number of cases. His own conviction was, that it was a proceeding as justifiable as amputation of the thigh, and far more beneficial, inasmuch as it saved the limb."

1. In Mr. Jones's paper it is stated, that an extensive prejudice exists both in England and France against this operation, although few attempts at curative surgery ever promised better at its commencement than this did. The first well-authenticated case (Mr. Filkin's case wanting data to substantiate it) was successfully performed in 1781. The next occurred in France in 1792; the patient dying some time afterwards of dysentery. It was twice performed in Dublin in 1823. The first patient lived three years after; the cure of the second was perfect. In Edinburgh, Mr. Syme performed the operation in 1829, on a child, who recovered; but was unsuccessful in his next case. The operation has been sanctioned by Park, Crampton, Moreau and Syme. It was soon, however, allowed to fall into disuse; for, from the time of Mr. Filkin's operation, until 1850, a period of eighty-eight years, but twelve cases are on record. In this year, however, it was revived by Mr. Ferguson. A table of thirty-three cases was presented for the inspection of the society, showing that death had supervened upon the operation eight times only. Mr. Jones had been very successful, and he considered this due to the healthy locality in which he had performed it, and the admirable state of the hospital, which was situated near the sea. He also found great benefit from stimulating treatment after the operation. The objections to the operation are twofold—first, its severity, the danger arising from the shock to the constitution, hemorrhage, &c., &c.; and, secondly, we are told, that union does not always occur. To these, the author replies, that the success attending the operation is a sufficient answer; that the limb has been more serviceable than the most admirably constructed artificial support. The hemorrhage was generally inconsiderable. The limb grows after the operation, as was proved by three of the author's cases (children under ten years of age). Mr. Page's case also proves the same fact. The operation consists of a lateral incision on each side of the joint, and a transverse one across the centre of the patella; the flaps being dissected upwards and downwards, the patella removed, and the extremities of the tibia and femur being exposed, as much was removed of them as was found to be necessary; the bones were then placed in juxtaposition, and put into a suitable box. Mr. Mackenzie, of Edinburgh, suggested the preservation of the patella, that bone being held to one side by means of a flat and turned up spatula, over the inner condyle, and to this improvement the author gives his assent. He relates a case in which, after the performance of excision of the knee-joint, disease commenced in the opposite hip. Upon recovery, the patient found the limb which had been subjected to operation the stronger and more useful limb. The operation should not be performed indiscriminately in all cases. It is not fit for those commonly called white swelling, and should not be delayed until the strength had been too much reduced.

2. *Dr. Keith's case.*—John Hay, æt. 9, from old Aberdeen, of small stature, and delicate appearance, but of a happy and cheerful disposition, was admitted on the 7th November, 1853, into the Royal Infirmary, Aberdeen, with scrofulous disease of the right knee-joint, which has existed, better and worse, for twelve months. The leg is fixedly bent on the thigh at an acute angle, the heel almost touching the nates. The knee-joint is much enlarged generally; the head of the tibia and condyles of the femur evidently expanded; the capsule of the joint is

distended and feels pulpy. There is tenderness on pressure over every part of the joint, and actual pain on any attempt being made at movement or extension. The diseased limb, owing to wasting, looks, as a whole, diminutive beside its fellow. His general health is good, though he is reported to have had occasional attacks of diarrhœa within the past three months. His spirit is buoyant, and he earnestly desires to save his limb.

On Saturday, 26 November, at 10-30 A.M., being under the influence of chloroform, an incision was made from the inner to the outer condyle of the femur, in a semicircular line, the point of the flap reaching to the head of the tibia, the ligamentum patellæ being there cut through. The flap, including the patella, was dissected from all its connections, to a line fairly above the condyles; the lateral and crucial ligaments were cut, when the utmost facility presented itself for sawing off the condyles of the femur. The articulating surface of the tibia was then sawn off from behind forwards, the line of section not reaching so low as the fibula. Two inches in whole being the exact measure of the two portions of bone removed at the operation. The face of the patella was implicated so far as to have become partially adherent to the trochlea of the femur, and was to some extent denuded of cartilage, it was therefore smoothed by the removal of a thin slice by the aid of a farrier's paring-knife; the remaining portion of the patella, being evidently healthy was allowed to rest in situ. Two small arteries only required ligature. Indeed the operation might be designated as bloodless, so little hemorrhage having occurred. The wound was closed by six stitches, dressed with ointment, compresses, and bandage, and the limb extended to the utmost without any difficulty—laid and secured in a well-fitting Macintyre's metal fracture frame. The whole proceeding may have occupied five minutes. He was put to bed still under the influence of chloroform.

After the operation everything went on most satisfactorily until December 8th, when the projection of the edge of the femur at the extreme angle of the wound caused some pain and tension. For this the patient was put under the influence of chloroform, and this projecting edge removed. Afterwards everything went on well, except that a small abscess, which formed without any apparent cause, had to be opened on the upper and outer aspect of the flap, on the 18th of January. The remainder of the report is as follows:—

January 27th.—The wound has healed up. The boy stands firmly on both feet; the right limb, straight as an arrow, wants only one inch under the heel to make the bearing on both limbs equal. Allowed to rise and dress daily.

February 10th.—The wound firmly cicatrized. He is up daily, and going about on crutches. The joint has much the shape of its fellow; is solid to the feel, from the mass of callus present, and is entirely stiffened by ankylosis. The thigh on the right side is more plump than on the left, no doubt, in consequence of the shortening of the shaft, causing the muscles to belly out from relaxation. The joint bears handling freely.

February 16th.—He is daily going about, up and down stairs. By bending his other knee a little, he can walk with both heels on the ground. He requires no more surgical treatment, and might be dismissed cured.

March 10th.—He has been kept under observation, and permitted to run about the hospital until to-day, when he is allowed to return home. The right limb is just one inch shorter than its fellow, and is now the thicker of the two, both leg and thigh.

3. *Mr. Erichsen's case.*—William S—, æt. 7, admitted into University College Hospital, February 3d, 1854. The affection of the knee, which appears to have been of a scrofulous character, had begun two and a half years previously, after severe measles and chickenpox. He had, however, been delicate from birth, and at two and a half years of age, an abscess had formed and burst over the sterno-mastoid muscle. In April, 1854, Mr. Erichsen had made free incisions on either side of the joint, and evacuated in this way a considerable quantity of matter, the patient at the same time being subjected to the usual general and local treatment. The patient was also placed under the influence of chloroform, and the limb straightened, and put up in splints. The wound in the knee did not heal, and the patient making no satisfactory progress, was sent out of the hospital for change of air.

The operation of excision was performed on the 13th of February, 1854, the patient being pale and thin, but cheerful. The knee was somewhat enlarged.

The patient being under the influence of chloroform, an incision was made an inch above the inner condyle of the femur, along the side of the joint, to about an inch below the patella; a second incision ran across the leg; and a third parallel to the first, on the other side of the joint; the flap including the patella, was then raised, and the lower two inches of the femur removed with the saw. The upper portion of the tibia was sliced off, and a portion of the outer part gouged away. The under surface of the patella was likewise scraped, the hemorrhage being altogether very trifling. The parts have since been kept in apposition, and the patient, up to the 10th of March, was doing well.

ART. 116.—*Case of Loose Cartilage in the knee-joint, treated by Mr. Syme's operation.*
By Mr. MACKENZIE, Surgeon to the Royal Infirmary, Edinburgh.

(*Edinburgh Medical and Surgical Journal*, Jan., 1854.)

The object of this operation is to fix the cartilage in a wound (made subcutaneously) of the synovial membrane, with a view of obtaining its adhesion to the surface of the wound.

"CASE.—Alexander M'Brain, a fisherman from Lochgilphead, was admitted into the hospital under my care on the 16th of February, 1852. For about five months previously he had suffered from weakness of the left knee-joint, which prevented him from following his occupation, and which was aggravated by repeated attacks of effusion into the joint, which always followed any attempt to walk.

"Having learned from Dr. Hunter of Lochgilphead that these symptoms were dependent on the presence of a loose cartilage in the joint, he came to Edinburgh for the purpose of having the body removed. He stated, on his admission, that, although he never suffered much pain in the knee, the state of the joint rendered him so useless that he was willing to submit to anything which would restore the use of the limb.

"The cartilage was readily detected. It was of a flattened shape, and of the diameter of a shilling, and could be easily pushed about to all parts of the joint.

"On the 12th of February, having pushed the body as far as possible outwards over the external condyle of the femur, and keeping it fixed there by the finger of an assistant, I introduced a curved tenotomy knife through the integuments at about an inch distance, and turned the edge of the blade upon the cartilage, cut freely down upon it. Being satisfied that the joint was sufficiently opened, I pushed the cartilage edgeways into the opening and withdrew the knife.

"A compress was then placed over the track of the subcutaneous wound, and a second placed on the inner side of the cartilage, so as to keep the body steadily in the above position, whilst, as a matter of precaution, a splint was placed on the back of the limb, so as to keep the joint immovable.

"No uneasiness followed this trifling operation, and the bandage was not removed till the 27th. The cartilage was then felt in the same position, and evidently firmly fixed. The compress was reapplied, and retained in its place by an elastic knee-cap. About a fortnight after this, he was allowed to walk about and he would have returned home had he not been suffering from a venereal sore, which he had contracted on his journey from home.

"He remained in the hospital till the 19th of May, when he returned home perfectly well. The cartilage was still to be felt, firmly adherent in the same position, but diminished to less than half of its original size. The limb had nearly quite regained its former strength, and he walked without any limp or uneasiness.

"November, 1853.—Dr. Hunter informs me that this patient has followed his occupation as a fisherman ever since his return home, and has never experienced the least annoyance from the limb, which is as strong as ever. The cartilage can still be felt, firmly fixed in its place, but reduced to a very small size."

ART. 117.—On the use of Adhesive Plaster in the treatment of Fracture of the Patella.
By Dr. NEILL, Surgeon to the Pennsylvania Hospital.

(*Pennsylvania Medical Examiner*, Jan., 1854.)

Dr. Neill's plan is to bring together the fragments of the fractured patella by means of long and broad straps of adhesive plaster (1½ inches wide). He carries each of these straps round the lower third of the thigh, so as to press the muscles and the detached fragment of bone towards the knee, and then, bringing it across the popliteal space, he brings it back again by carrying it round the leg, immediately below the inferior edge of the patella. Four or five of these straps are applied, each one overlapping the former one, until the coils of plaster above the knee extend down to the edge of the patella. Two cases are related, in which this plan answered very well, in conjunction with ordinary and simple means for keeping the limb extended during the treatment.

ART. 118.—On Excision of the Ankle-joint. By Dr. BUCHANAN, Ex-Surgeon to the Royal Infirmary, Glasgow.

(*Glasgow Medical Journal*, April, 1854.)

"Examined anatomically," writes Dr. Buchanan, "I feel convinced that there is no joint in the body which can with so much ease be exposed, and the surfaces of which, if diseased, can more effectually be removed than that of the ankle-joint. The chief difficulty which presents itself is one which at first sight seems formidable—I mean the dislocation of the astragalus from the tibia, so as to have a free and complete view of the diseased parts—but if the malleolus externus is removed with the saw, on a level with the tibia, it will be found that the foot can be, with the greatest ease, inverted at a right angle to the leg, thus exposing not only the whole articular surface of the astragalus but also that of the tibia. The tendons of the peroneus longus and brevis muscles, as they pass round the malleolus externus, must no doubt be sacrificed; but these are of little consequence when we consider the importance of having a complete exposure of the disease requiring removal. In the case on which I operated, the disease of the joint had been of long standing, the cancellous structure of the astragalus, tibia, and fibula, had become soft and almost spongy; so that when the inversion of the foot, to which I have adverted, had been effected, almost as in a case of *talipes varus*, without *pes equinus*, I found no difficulty in removing the whole of the astragalus, and thereafter scooping out with the gouge the diseased surface of the tibia and malleolus internus."

"CASE.—The patient, a girl, æt. 18, a mill-worker from Paisley, was admitted into the infirmary in the first week of April, 1850. She had labored under all the symptoms of acute synovitis of the ankle-joint for two years previous to her admission under my care, and was very much emaciated; had passed through the usual routine practice of leeching, blistering, &c., &c., and did get better; but, so soon as the acute symptoms abated, she again entered the mill, where, by being obliged to stand at least sixty hours per week, the chronic stage was succeeded by acute attacks, till at last suppuration took place, and pus, with synovia, was discharged from two openings communicating with the joint; hectic fever supervened, and at last tuberculous pulmonary disease became superinduced. The consultation left the case in my own hands, either to perform amputation through the joint, above it, or by the operative procedure I had hinted at, of excision. The disease of the bones of the leg was limited to the articular surfaces of the tibia; the foot was sound, with the exception of the astragalus, and, therefore, I determined, at least, not to *guillotine* above this joint.

"Having rendered her insensible by the cautious exhibition of chloroform, assisted by my colleagues, Dr. Laurie and Mr. Watt, I began my incision on the outer edge of the peroneus tertius, carrying it only through the integuments and subjacent cellular tissue, in a semilunar direction, to the outer edge of the tendo Achillis. This flap having been carefully dissected back over the malleolus ex-

ternus, I now divided the tendons of both peronei muscles, and by applying the saw to the malleolus and removing it, I at once exposed the joint at its lateral aspect; dislocation of the astragalus inwards, carrying the sole of the foot so as to make it look to the opposite leg, was the act of a moment; by this means I exposed the whole of the articular surfaces of the astragalus and tibia, all of which were found in a carious condition; with a strong bistoury the astragalus was removed, and the distal extremity of the tibia and articular surfaces of the malleolus internus was scooped out with a gouge. The foot was now replaced, and the flap of integuments secured to the surrounding parts by stitches and bandages. Not more than two ounces of blood were lost.

"The patient felt greatly relieved from the pain and irritation of the diseased joint after the operation; she enjoyed sound rest; her hectic symptoms gradually abated; the wound cicatrized slowly and most successfully, and, on the 1st of May, when I left her in charge of my colleague, Dr. Laurie, I had every prospect of a most favorable result. Shortly after my leaving, however, Dr. Laurie informed me that the pectoral symptoms became more troublesome, the cough and purulent expectoration rapidly increased, and, although the result of the operation was most satisfactory, yet, in proportion as the wound of the foot healed, the metastasis of pus to the lungs increased; and, after about six weeks from the time the operation was performed, death took place. On inspection after death, the wound of the joint had healed to a point, osseous callus, to a large extent, having been deposited in the site of the astragalus and malleoli."

ART. 119.—*A case of Luxation of the Metatarsal Bones under the Tarsus—a form of dislocation not hitherto described.* By Mr. TUFFNELL, Surgeon to the City of Dublin Hospital.

(*Dublin Quarterly Journal of Medicine*, Feb. 1854.)

Instances of luxation of the metatarsus *upon* the tarsus are very rare, only six having as yet been recorded, but luxation of the metatarsus *under* the tarsus is still rarer, and the subjoined case is the only one on record.

With regard to the diagnostic signs it will be seen that the foot is shortened three-fourths of an inch or more, curved inwards, and at the base of the great toe broader than its fellow by an inch;—that the instep stands out sharply defined, with a sudden angular prominence and marked deficiency in front;—that the arch of the foot on its inner border is preserved, but the centre of the sole is occupied by the tarsal extremities of the displaced metatarsal bones. Mr. Tuffnell's account of the case is as follows:—

"For the opportunity of witnessing it I am indebted to Mr. Dolmage, surgeon of the 7th Dragoon Guards, in whose regiment the accident occurred, and in the following manner: a trooper was returning off duty to Portobello Barracks, Dublin, on the 30th of November, 1851, and was walking his horse cautiously, the road being very slippery from frost. Whilst turning a corner, bordering upon the canal, the animal suddenly slipped, and fell with his whole weight upon the soldier's right leg and foot, crushing it against the ground. The horse rose instantly, the man remaining in the saddle, but suffering such agony, that, unconscious of what he was doing, he reined the animal back into the canal. Here a violent struggle ensued, the horse eventually disengaging himself from his rider, who, assistance being at hand, was dragged out, and taken to his regimental hospital close by. He was seen by Mr. Dolmage within a very few minutes of the accident having occurred, and before any considerable degree of swelling had taken place.

"The foot was found to be much shortened, curved inwards and bent, the tarsus presenting a hard bony projection, overhanging the metatarsus, whilst deep under the plantar structures a second bony mass could be felt lying obliquely across the sole of the foot.

"Reduction was at once attempted by placing the patient on his back, fixing the pelvis, flexing the leg upon the thigh, and extension then made by pulleys attached to the extremity of the foot and to the toes, and persevered in for a considerable time, during which every possible movement of the metatarsus

upon the tarsus, calculated to assist reduction, was resorted to, and leverage also made upon the dislocated extremity of the metatarsal bone of the great toe, where projecting in the sole, by means of a ruler being applied to it, and drawn upwards and forwards, whilst the clasped hand of a powerful assistant, placed upon the instep, held that part downwards and backwards. As great a degree of force as it was considered justifiable to employ was expended in the effort at reduction, and continued for one hour, but not the slightest alteration in the position of the bones could be effected. Considerable effusion and ecchymosis followed, the latter extending up almost to the knee. Leeches, fomentations, &c., were prescribed, and the ordinary treatment for violent contusions had recourse to. Under this treatment swelling subsided. ♦

"All swelling and thickening had now disappeared, the outline of the tendons and every portion of the extremity being most accurately defined. In its general aspect, the foot somewhat resembled a case of pes equinus, being considerably shortened and arched upon its inner border, the distal extremity of the metatarsal bone and first phalanx of the great toe being adducted, the last phalanx at the same time pointing somewhat outwards. The instep presented a normal condition from the malleoli to the extremity of the internal cuneiform bone, which projected in a sharp point, raising the integument, which was stretched over it, white and glistening like a tightly bent knuckle; from the outer border of the cuneiform bone ran an evident ridge, marking the division between the tarsus and metatarsus, and defining the line for Hey's amputation of the foot.

"The measurements of the injured member, as compared with those of the opposite foot, were the following:—Length of the dislocated extremity from the point of the great toe to the heel, $9\frac{1}{2}$ inches; of the uninjured foot, $10\frac{1}{4}$ inches. Breadth of the dislocated foot across its widest part at the base of the great toe, $4\frac{1}{4}$ inches; of the uninjured foot, $3\frac{1}{2}$ inches. The extensor tendons of the injured foot stood out in strong relief, raising the toes; the tendons of the sound foot could be but indistinctly seen.

"These were the principal appearances which presented themselves. The patient at this time had made no effort to walk, for upon the few occasions on which he had tried to use the limb, supported by crutches, he found a total inability to move otherwise than on the heel, in consequence of pain of a burning, lancinating character being produced on the sole of the foot, whenever he attempted to throw any weight upon the toes, and to place the plantar structures on the stretch.

"Six months afterwards I obtained a second cast of the foot, and again carefully inspected the limb. It had now become more inverted, and the projection in the sole was less evident, having been rounded and partly removed by absorption. The patient walked freely with a stick, bearing his weight on the outer border of the foot, as in a case of talipes varus, but he could not make any effort at progression, or even move, when the foot was placed flat upon the ground, from the same burning pain before referred to, and which he described as resembling the feeling that might be imagined to result from attempting to walk in a very tight boot with a marble under the sole of the foot."

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 120.—*Case in which the Birth of Twins was separated by an interval of fifteen days.* By M. DMOCHOWSKI.

(*Compte Rendu des Trav. de l'Assoc. Med. d'Eure-et-Loire; & Rév. Méd. Chir.*,
March 1854.)

CASE.—The patient in this case was a well-formed, healthy primipara, whose pregnancy presented nothing unusual or remarkable. She was delivered of a child by a midwife on the 1st of June, 1853, and her confinement had this peculiarity, that there was no swelling of the breasts, no secretion of milk, and, as she thought, no lochial discharge. In three days she got up, and went about her daily duties.

Two days later she was examined by M. Dmochowski, and pronounced to be pregnant of a second child, the beats of whose heart, and the movements of whose limbs were plainly perceptible. The abdomen was enlarged, but not very greatly so. The breasts were neither flaccid, nor engorged. The genitals were lax and ecchymosed, and there was a very slight appearance of lochia. The os uteri was partially open, and a bag of membrane could be felt high up within it.

On the 14th, M. Dmochowski was summoned to her bedside. The water had escaped several hours previously, and the pains were severe and frequent. The os uteri was open, but rigid. The presentation was irregular, and it was deemed necessary to turn; but this was found to be impracticable until the patient had been bled. The child was dead. The first child was a boy; this was a girl; and both were as large as twins usually are. The placenta presented no peculiarity.

After this second confinement there was an attempt at the establishment of the secretion of the milk and of the lochiæ; but this soon passed off, and three days later the patient sank, apparently from puerperal fever. The body was not examined.

ART. 121.—*Case in which a Fœtus escaped into the Abdominal Cavity by Rupture of the Uterus, and remained there for fifty-four years.* By M. NEBEL.

(*Zeitsch. für Rationelle Med.*; and *Gaz. Med. de Paris*, Dec. 10, 1853.)

Speaking of a case of gastrotomy, which we have noticed elsewhere (v. p. 166), M. Nebel mentions a most remarkable case which occurred to his great-grandfather, and of which he still preserves the fœtus in his museum. This case was recorded at the time in the *Ephémérides des Curieux de la Nature*, cent. vi., obs. 52. The fœtus in question was extracted in 1767 from the body of a woman who had died of peritonitis, at the age of 91 years. After two natural confinements, this woman became pregnant a third time, on which occasion the arm of the child presented. This was in 1713. The midwife attempted to turn, but instead of this she ruptured the uterus, and the child escaped into the abdomen, where it remained—until it was extracted at the *post-mortem* examination—fifty-four years. The mother it appears was twice pregnant after this, but aborted on each occasion.

ART. 122.—*Case of extra-uterine Pregnancy.* By Dr. WEST, Physician-Accoucheur to St. Bartholomew's Hospital.

(*Edin. Medical Journal*, Dec 1853.)

In this case the fœtus escaped into the peritoneal cavity, and the patient died, though less suddenly than is usual under such circumstances.

CASE.—Sarah Moss, æt. 28, a married woman, the mother of two children, was admitted into St. Bartholomew's Hospital on June 7th, 1853. She stated, that her symptoms of illness had commenced six weeks previously, when, after unusual exertion, she was seized with pain in the lower part of her body; and, on examination, found that her womb had come down, and was protruding externally. Having retired to bed, the womb receded, but, soon afterwards, a profuse discharge of blood from the vagina took place, attended with considerable pain. The flow of blood continued for three weeks afterwards, when, under the influence of some medicine prescribed for her by Mr. Wood, the resident medical officer of the hospital, it entirely ceased, and she much improved in health. It appeared, however, that through the whole time she had suffered severely from pain in the lower part of the abdomen, especially during the evacuation of the bladder or bowels, and that, by a sudden increase of this pain, she had at length been induced to apply for admission. On examination, the slightest pressure over the hypogastrium appears to occasion intolerable pain, more especially in the left iliac region. She has a constant desire to pass water, but has not been able to do so for twelve hours, the bowels have not acted during the past day. She lies in bed with the knees drawn up, and her countenance is expressive of pain. Pulse 96, sharp; tongue coated, no vomiting. The catheter having been easily introduced, about half a pint of urine was drawn off. On examination *par vaginam*, the os uteri was found to be tilted backwards, and extremely tender to the touch; when pressure was made backwards on parts between the vagina and rectum, the pain produced was so great, that the examination could not be persisted in. A castor oil enema was ordered to be administered, and twelve leeches to be applied over the pubes.

8th.—The patient had two rigors yesterday. She has passed a restless night, and her countenance is still expressive of great anxiety. No urine having been passed, the catheter was again had recourse to. Its introduction, although easily accomplished, appeared to occasion great pain. The vaginal examination, although very painful, was not so much so as yesterday. A tumor, the size of an apple, but elongated in form was detected, occupying the cul de sac between the bladder and rectum, but placed considerably more to the left than the right side. By it the uterus was pressed forwards, until its cervix was situated immediately behind the pubic symphysis. The tumor had an irregular outline, and gave a sensation to the finger as if it contained fluid. The os uteri was open, and the body of the uterus seemed less freely movable than natural. Ordered *luridines* \frac{ss} *vaginar.* R Pulv. ipecac. co. gr. x horâ somni.

She died with all the symptoms of peritonitis five days afterwards.

Post-mortem Examination.—The abdomen having been opened, the uterus was seen enlarged to about three times its natural size, and tilted forwards, its fundus being in apposition with the anterior parietes. The pelvic cavity was filled with coagulated blood, which had moulded itself to the surrounding organs; there was also about a pint of blood in a fluid condition. The coils of intestine were displaced out of the pelvis, and, in many parts of the lower half of the abdomen, they were adherent by dry shreds of coagula. On search among the extravasated blood, a small fœtus, of apparently about two months, with its investing membranes, was found lying quite detached. In the walls of the left Fallopian tube were the remains of a small cavity or laceration, which could not, however, be proved to have communicated with its interior. Both ovaries were in a normal condition, as also the uterus, excepting that the walls of the latter were much thickened, and that its interior contained well-formed decidua.

The case just detailed presents us a good example of the usual termination of cases of tubal gestation. It is well known that, when the fœtus is detained, and undergoes development within the cavity of the Fallopian tube, it is seldom

carried beyond the second month, about which time it usually escapes by rupture into the peritoneal sac, gives rise to profuse internal hemorrhage, and destroys the patient. Although these cases are far from being of frequent occurrence, yet we think the observation is warranted as a general one, that they almost always terminate very rapidly. No time is left for speculations as to diagnosis; a woman, suspecting herself pregnant, and having perhaps suffered more or less of aching pain in one or other iliac region, is suddenly seized with a sharp pain in the belly, almost immediately sinks into deep collapse, which very soon ends in death. Such is their usual history. There is something very unusual in the duration of the urgent symptoms in the above case. Setting aside, as accidental concomitants, the uterine prolapse and hemorrhage, which occurred six weeks before death, and also the abdominal pains, &c., which followed it, we yet seem to have evidence that the first escape of blood took place a full week before the fatal event. On the day after admission, a tumor the size of an apple, and yielding a sense of fluctuation, was distinctly felt by vaginal examination; and, judging from the symptoms which had been present, there is little doubt but that things had been in the same condition during the two previous days. Subsequent to this, however, two distinct shocks of collapse occurred, in the last of which the patient died. From consideration of these facts, we seem to be led to the conclusion that the process of escape of the ovum from the interior of the tube to the peritoneal sac was accomplished, not as it usually is, by a single rupture, but by several distinct ones. At first, probably, the laceration was only of the walls of the tube, and the extravasation resulting from it was bounded by the peritoneal folds, behind which it lay. Such a condition would well account for the pain, constitutional disturbance, &c., which were present; and it may readily be supposed that the collapse which occurred suddenly on the 11th was due to an accidental increase in the quantity of extravasated blood. It may be doubted whether the rupture of the peritoneal layer, and the escape of the blood, &c., into the cavity of the abdomen, occurred at this date, or immediately preceding death, since, under either supposition, the symptoms are quite explicable. We need scarcely point out, that the difficulty there was in tracing the laceration into the canal of the Fallopian tube much supports the conclusion that time enough had elapsed for it to become closed.

ART. 123.—*Case of Pregnancy in a rudimentary horn of the Uterus, with probable advance of the Ovum from the right ovary into the left horn of the Uterus.* By Professor SCANZONI.

(*Verhandl. der Phys. Med. Gaz. in Würzburg*, Bd. 4, 1853; *Edin. Medical and Surgical Journal*, Jan., 1854.)

In his handbook of *Pathological Anatomy*, Professor Rokitansky describes a unique preparation, in the Viennese anatomical collection, exhibiting a pregnancy in a rudimentary uterine horn. The case of Professor Scanzoni is an interesting addition to this extraordinary class of cases.

CASE.—The woman generally enjoyed good health, and regularly menstruated. She was married in her 28th year,—had a miscarriage of twins five months afterwards, and subsequently bore three children, which still live. In her last two pregnancies, she tried by violent exercise to induce premature labor. During the first half of all her pregnancies she suffered much from vomiting, toothache, heartburn, and œdema of the lower extremities.

In July, 1852, she conceived for a fifth time, and again used every means to induce premature labor. No disorder of general health occurred in this pregnancy. On the 21st of November she had a quarrel with her husband. The same evening, and also on the next, she complained of slight colicky pains in the left hypogastric region, which, however, did not prevent her from going about. But she soon became very weak, and had to be carried to bed. This was at ten o'clock forenoon. At midnight Dr. Scanzoni visited her, and diagnosed an extra-uterine pregnancy, with profuse internal hemorrhage, in consequence of the rupture of the containing sac. She died almost immediately afterwards.

At the *post-mortem* examination, there was found in the lower half of the abdomen a great quantity of variously altered blood. After its removal, there was observed on the left side a round swelling, of about the diameter of $3\frac{1}{4}$ inches, with a laceration on its outer border. In it were contained the membranes and placenta of the fetus, along with coagula of blood. The cord was six inches long. The corpus luteum was in the right ovary. Both Rokitanaky and Scanzoni, on first viewing their cases, thought they had to do with tubal pregnancy, and only on further examination discovered the true nature of the cases. Such cases are described by Rokitanaky as an intermediate link between uterine and tubal pregnancy.

Scanzoni's case is interesting physiologically, as belonging to a series where the corpus luteum is formed on the ovary of the side not corresponding to the uterine horn or tube which is pregnant. Such cases at once suggest the idea that the ovum must have performed a long journey from the ovary of the one side, through the uterus, and into the passages belonging to quite the other side. Scanzoni states that many analogous observations have been made in the lower animals, but he is mistaken in supposing that his own is the first in the human subject.

ART. 124 — *Cases of Caesarian Section.* By (1) M. FAYE; (2) M. MAZIER; (3) M. HALDER; and (4) M. NEBEL.

1) *Norsk. Mag.*, Bd 6; and *Edinb. Mon. Jour.*, Feb, 1854; (2) *Jour. de Méd. et Chir. Pr.*, and *Méd. Chir. Rev.*, Oct., 1853; (3) *Nederland Weekbl.*, Aug, 1853; *Edinb. Mon. Jour.*, Feb, 1854; (4) *Zeitsch. für Rationelle Med.*; and *Gaz. Méd. de Paris*, Dec 10, 1853.

Four cases are related in the medical periodicals of the last six months, and of these three were successful.

1. *M. Faye's case.*—The patient was a primiparous woman, aged forty, whose labor commenced on the 3d of June, 1850. After continuing some time the pains altogether ceased, when venesection and enemata were had recourse to, but without benefit. On a vaginal examination the breech of the child was felt immediately above the symphysis pubis, and to the right of it was distinguished a large rounded body. A large immobile tumor, of cartilaginous consistence, was felt occupying the whole hollow of the sacrum, and the left iliac fossa. A similar tumor, pretty high in the pelvis, could also be diagnosed to the right of the sacrum. The uterus was so high that the cervix could not be reached by the finger. Thus matters continued for two days; then weak pains recommenced, but with no effect, as it was found that the tumors had somewhat descended, diminishing the outlet of the pelvis to one inch in diameter. On an exploring trocar, with hooked extremity (*wiederhaken*), being thrust into them from the rectum, no fluid was found to exude through the canula, nor was any of their substance brought away. Caesarian section was resolved on, and performed in the usual manner under the influence of chloroform.

The child was found in the second breech-presentation (sacro-posterior), and was easily extracted alive. Some hemorrhage occurred after the removal of the placenta, but this was effectually arrested by compression of the abdominal aorta. Vomiting occurred after the operation, followed next day by abdominal pain, return of hemorrhage, collapse, and death. On examination, *post-mortem*, two large fibrous tumors were found attached by pedicles to the posterior wall of the uterus.

This is the fourth case of Caesarian section which has been performed in Norway within the last ten years. Two of these occurred under very disadvantageous circumstances, viz., after forceps and craniotomy had been tried. In three cases the children were extracted alive, and in two they ultimately survived. In every case the mother died—at periods varying from a few hours to five days after the operation.

2. *M. Mazier's case.*—This case, which occurred at Laigle (Lorne), is a wonderful instance of recovery under the most adverse circumstances, and fully exemplifies the greater success of dangerous operations in the country than in

towns. Madame Soret, æt. 32, of robust constitution, the mother of two children, after a normal pregnancy, fell in labor on the 30th December, about 3 P. M. The child presented by the feet. The pains, at first slow, became strong and frequent towards nine o'clock. About eleven, a pain of great violence came on, forcing the patient to scream aloud, and blood was at the same time discharged in a copious stream. The labor ceased immediately, and on examination the feet of the child could no longer be felt. The blood continued to flow in abundance for an hour, but without any return of the pains. The medical men in attendance declined to act till the pains should return, and the patient remained that whole night, and the following day and night, in a very precarious condition, suffering severely from acute pain in the whole abdomen, but especially in the epigastrium. On the 1st of January, M. Mazier was called in, and, arriving in the afternoon, was not joined by the other medical men till late in the evening. He found the patient pale and emaciated, a marked coldness over the body, the belly tense and unable to support the least pressure. The child could be felt through the abdominal parietes, apparently removed from the pelvic region, and occupying the superior part of the abdomen. On examination per vaginam, an extensive rupture of the uterus was detected on a level with the superior aperture of the pelvis, the tear remaining open for a quarter of its length on the left side, and elsewhere obstructed by clots of blood, &c. Gastro-tomy being decided on, the operation was performed by an incision of about sixteen centimetres in length, dividing nearly the whole extent of the linea alba from the umbilicus to the symphysis pubis; and the child and placenta were extracted from the peritoneal cavity. The child was dead, and had evacuated, for the intestines of the mother were stained by the meconium; the dirty serum and small blood clots were removed, and the incision united by the twisted suture. The operation was succeeded by very little fever; the pain and tension of the abdomen soon gave way; there was some suppuration by the vagina; the wound was cicatrized on the 8th. With the exception of an eruption on the skin, and pain in the rectum, attended by constipation, and removed by appropriate evacuations, no remarkable symptoms occurred, and the patient steadily improved. At length the neck of the uterus could be felt pushed back and adherent to the rectal region of the true pelvis. The cicatrix of the rupture and of the incision was complete, and the patient had resumed her ordinary occupations forty days after the operation. A hernia of the linea alba could be observed under the skin for one half the extent of the incision, but this was the only trace left of this perilous operation.

3. *M. Halder's case.*—The patient was a woman, with an oblique and contracted pelvis, who had twice borne dead children. In her third confinement the head of the child became impacted at the brim. The pains, which were very strong, suddenly ceased; the patient became pale and uneasy, and the pulse sunk very low. On examination a rupture was found to have taken place at the posterior part of the uterus. Dr. Halder thereupon performed the Cæsarian section, and extracted with ease, a dead child, having a greatly enlarged head. In five weeks after the operation the patient had completely recovered.

4. *M. Nebel's case.*—Barbe J., æt. 30, pregnant for the 4th time, injured herself by a fall in the 6th month of her pregnancy. At first she suffered little, but six weeks afterwards she was seized with violent uterine hemorrhage and pain, and with considerable sudden enlargement of the abdomen. At this time there were no uterine contractions, and the os uteri continued closed. The fœtus could not be felt on the usual examination. These acute symptoms subsided in a few days under the employment of leeches and other remedial means.

On the 29th of January (no previous date is given) the water escaped, and on the day following the placenta came away, *but without any trace of the fœtus*. The appearance of the end of the cord, and of the placenta, indicated a fœtus of the 7th or 8th month.

On the 4th of February, two red inflamed spots made their appearance on the *linea alba*, and the symptoms of severe peritonitis became developed. Two days later these spots sloughed, and gave exit to purulent matter.

M. Nebel saw the patient again on the 9th of February, when he found the abdomen greatly distended, and upon the point of rupturing at the sores already

mentioned. He was able to detect a hard foreign body immediately under the parietes. Everything seemed in a desperate state—a cadaverous odor exhaled from the wound, and the patient seemed at the very point of death.

Under these circumstances gastrotomy was performed, and a fœtus extracted without any difficulty from immediately under the skin. The fœtus, which was partially invested in a case of false membrane, was far advanced in putrefaction. Much offensive, dirty, sero-purulent fluid was formed in the peritoneal sac, which fluid was carefully cleansed away, and the parts bathed with warm water. The uterus was contracted, and deep down in the pelvis, so that it was not possible to examine the opening through which the fœtus had escaped.

The report goes on to say that the patient rallied without any accident, and was well again in six or seven weeks.

M. Nebel supposes the child to have died at the time of the fall, and then to have passed into the cavity of the abdomen by progressive absorption and ulceration of the walls of the uterus.

ART. 125.—Case of Inversio Uteri occurring during labor. By Dr. PAGE JOHNSON.

(*Dublin Quarterly Journal of Medicine*, Feb., 1854.)

This unusual and interesting case occurred to Dr. Johnson while “assistant” in the Dublin Lying-in Hospital. The account is taken from the Report of the Dublin Obstetrical Society.

Esther Page, æt. 19, a thin, delicate-looking woman, of fair complexion, was delivered of her first child, a healthy girl, on the 31st of July, 1851. Her labor so far was easy, and of about six hours’ duration. The gentleman in attendance, after having tied and separated the funis, had maintained the contraction of the uterus with the hand above the fundus—in accordance with the usual practice of the hospital—for about a quarter of an hour, when, finding a tendency to “draining,” he increased his pressure; but, as he said, not nearly to the extent it has been, on frequent occasions found necessary to employ, in order to assist in the expulsion of the placenta, or restrain hemorrhage. The uterus was felt suddenly to yield and recede from his grasp, and he immediately saw it expelled from the vagina, an inverted mass, with the placenta still attached. Dr. Johnson was at once sent for; on his arrival he found the woman pallid, exceedingly anxious, complaining of considerable pain, and a sensation of sinking; the pulse was weak, indeed scarcely to be felt.

Examination proved the uterus to be inverted with the placenta attached to its fundus; the funis was of the ordinary length, and there was then no hemorrhage. Recollecting that the lapse of every minute was of consequence, Dr. Johnson proceeded to replace it at once, which he accomplished in the following way:—He first detached the placenta,—a matter of no difficulty, there being no morbid adhesion,—and he was pleased to find that after it was separated, no hemorrhage followed, owing he considered, to the constriction the vessel underwent at the cervix; he then restored the cervical portion of the inverted organ, which was easily returned within the vagina, and re-inverted as far as the body; but it was some time (five or seven minutes) before he could reduce the fundus, which required the fingers to be held in a flexed condition against it, while he made counter-pressure with the left hand above the pubis. Some wine had been given to the patient to relieve the sensation of exhaustion, but it was not till the uterus had been restored to its natural state that she could be persuaded her immediate dissolution was not close at hand; ergot was afterwards administered, and she was kept longer in the horizontal position than ordinarily. Milk was secreted on the third day; she made a perfect recovery, and was discharged quite well.

ART. 126.—The inner surface of the Uterus after delivery.

By Dr. M. DUNCAN.

(*Medico-Chir. Rev.*, Oct., 1853.)

It has hitherto been generally taught, that in parturition there passes away

with the expelled ovum, or after it, the entire decidual membrane, leaving the muscular or proper structure of the uterus bare over the entire inner surface of its cavity, and, in contradiction at once to observation and analogy, that over this surface a false membrane is formed, beneath which there springs up an entirely new mucous membrane. But the investigations of the author have convinced him that in the healthy female the muscular tissue of the uterus is at no time laid bare. After parturition the remains of the uterine decidua are left covering this surface. At the site of the placental insertion, this membrane appears thicker than elsewhere, and presents numerous elevations and depressions, and also the open mouths of the utero-placental vessels, which have been, as it were, cut across by the separation of the after-birth.

This membrane is distinguished from the muscular tissue by its softness, its color being different in a cross section, and its microscopical characters.

As the uterus diminishes in size in the progress of its natural involution, this membrane increases greatly in thickness, and becomes more and more easy of demonstration. At the same time, the muscular tissue underlying it diminishes rapidly in thickness. The large veins become obliterated, and in five or six weeks the womb has resumed its unimpregnated condition.

ART. 127.—*Case of sudden death during parturition from Rupture of the Right Pulmonary Artery.* By Dr. COOKE.

(*Dublin Medical Press*, Sept. 28, 1853.)

Dr. Cooke writes as follows:

CASE.—Mary Herleby, æt. 36, was brought in a car to the Macroon Union Infirmary on the 3d instant. She stated that she was in labor of her sixth child; that her illness commenced two days previously, while travelling to join her husband, who had obtained employment in a distant part of the country; that she had not expected her confinement for another month; and that she had been received into a farmer's house and kindly treated. Whilst answering my questions, she had a sharp pain, and, on examination, I found the os dilated to the size of a crown-piece, and very soft and yielding, a bag of membranes presenting, but no part of the fœtus was within reach. I should have conceived her to be not more than six hours in labor, were it not for her own statement, corroborated by the woman who accompanied her, to the effect, that she had suffered occasional strong pains for forty-eight hours previously. She was a remarkably handsome, well-formed woman. Her circulation and respiration were good, and all the symptoms seemed to promise a safe, if not a speedy delivery. I ordered a domestic enema, and left her in charge of a careful intelligent nurse-tender, with directions to send for me when her labor was more advanced. In exactly an hour after, I was hastily summoned, and was at her bedside in ten minutes, but found she had expired in a few seconds after the message was sent to me. The nurse informed me that she had not left her for an instant: that her pains had not altered either in character or frequency until within a few minutes of the fatal termination; and then, during a stronger pain, a small quantity of liquor amnii was discharged; that shortly after a powerful expulsive effort followed, during which her face and neck became very livid; that when the pain ceased she complained that her heart was leaving her; that her respiration became suffocative, and she died in a few minutes. Having satisfied myself by auscultation that the fœtus was not living, I did not perform the Cæsarean section. I made a *post-mortem* examination in eighteen hours after. The body was well-formed and moderately fat. The chest was very broad, and the mammary glands well developed. The face was pallid, and on the front of the neck there was considerably ecchymosis. The uterus was healthy, it contained a male fœtus of about seven months, very much macerated; the breech presented low down in the pelvis; there was a turn of the cord round the neck. The placenta was very firmly attached to the upper and anterior part of the fundus, and the usual quantity of liquor amnii was present. All the abdominal viscera were perfectly healthy. On opening the cavity of the chest, I found a quantity of fluid blood and some coagula, and soon traced the source of it to be a rupture in the

right pulmonary artery, just where it passes through the arch of the aorta. The heart and lungs were healthy, and the ruptured vessel did not indicate any proof of disease or weakness. Here, then, was the cause of death; it was altogether a fortuitous accident which no treatment could have averted; yet had this case occurred in private practice, where a *post-mortem* examination was not obtainable, the attending surgeon would have found it very difficult to absolve himself from blame, and the occurrence might have produced an injurious influence upon his practice for years.

ART 128.—*Effects of Menstruation on the Milk of Nurses.*
By MM. BECQUEREL and VERNOS.

(*L'Union Médicale*, No. 70; *Medico-Chir. Rev.* Oct. 1853.)

Upon the effect which the occurrence of menstruation exerts in women who are suckling, there is discrepancy of opinion among authors, the majority, however, with the public at large, believing in its deteriorating influence. So great is the difficulty in obtaining true statements upon this point, that, among the great number of hired nurses in Paris, the authors have only been able to examine the condition of the milk in three women while actually menstruating. In these, the density of the fluid was found slightly diminished, as was the proportion of sugar, and the proportion of water was sensibly so. The solid parts were notably increased, especially the casein. The authors cannot believe that such changes in composition can induce any mischief beyond some temporary derangement in the digestive organs, and even this might be prevented by causing the child to suck less, and letting it drink a little sugared water, to replace the sugar and water lost during menstruation.

In the discussion that followed reading the paper, M. Roger observed that, while attached to the Office for Nurses, he had paid considerable attention to this point, and that he had arrived at the following conclusions—If the menses reappear easily, without pain or derangement of the nurse's health, while her milk is under twelve or fifteen months old, and the quantity of blood lost is normal and moderate, the quantity of milk does not become diminished, or its qualities altered, and the child does not suffer from its use. If, however, the menses are too abundant or too frequent, the milk may diminish in quantity or disappear. The same effect is also produced, though more slowly, in some days or weeks, when the menses are prolonged for a week, so that the loss is considerable. The milk will much more certainly dry up if the menses reappear at an advanced period of lactation—this being then the signal of the imperfection and approaching termination of the secretion.

When the milk becomes thus diminished, it rarely exhibits the physical characters of poor milk; but by its density, whiteness, and the excess in number and size of its globules, it more approaches in character and richness cow's milk. When the menstrual epochs reappear with difficulty, and are attended with pain, indigestion, diarrhoea, &c., or are preceded or followed by leucorrhœa, the child may suffer symptoms due to indigestion induced by the altered characters of the milk, the alteration of the milk chiefly consisting in increase in the number and size of the globules. These influences are, however, only temporary, and the milk soon recovers its normal character. The ailments which the child hence suffers are only temporary, and have been greatly exaggerated.

ART. 129.—*On Puerperal Arteritis and arterial obstruction.*
By Professor SIMPSON.

(*Medical Times and Gazette*, Jan. 28 and Feb. 4, 1854.)

The paper, of which the abstract is subjoined, was read before the Medical and Surgical Society of Scotland, in the last session.

The writer began his paper by observing, that inflammation and obstruction of veins was comparatively a subject only of late research, and yet all were ready to acknowledge its practical importance as a subject in the pathology of obstetrics. Hitherto there had been no mention of arteritis and arterial obstruc-

tion in any of our obstetrical works. Dr. Simpson believed it not so common as venous inflammation and obstruction after labor; but still we as yet know little of the symptoms which indicated its occurrence, and perhaps the pathological results had often been overlooked. Dr. Simpson had collected a number of cases, and from them was led to believe it not so rare as might be supposed. Inflammation and obstruction of the arteries seemed to arise from several causes, as the separation of cardiac vegetations blocking up the vessels; the passing forward into the current of the circulation of fibrinous masses forward into the cavity of the heart; from local arteritis; from diseases of the blood; or, lastly, from laceration of the internal coats of the vessels.

The only detailed case of arterial obstruction and inflammation in the puerperal female was one described by Dr. Simpson to the Obstetric Society of Edinburgh, and contained in the *Monthly Medical Journal* for March, 1847. The symptoms followed a case of placental presentation, and carried off the patient five weeks after delivery. The lady, before becoming pregnant, had labored under endocarditis, and during gestation had attacks of difficult breathing. Hemorrhage came on at the eighth month, and the placenta was found presenting other complications, rendering the use of long forceps necessary, and a living child was extracted. The mother seemed recovering for some days satisfactorily; but, subsequently unfavorable symptoms showed themselves; and during the second week after delivery, Dr. Simpson found, on making his visit, that no pulse could be felt in the right arm lower than the elbow. The limb was stiff and benumbed? Gradually and feebly pulsation returned in the arteries of the right forearm, but the lower limbs seemed also similarly affected. At length, erratic symptoms of phlebitis showed themselves, and the patient died, apparently from phlegmasia dolens of the left arm and left side of the face. On the body being opened, the left vena innominata was found entirely shut up by a lymph plug. The humeral artery at the bend of the arm was occluded, but no marks of laceration appeared, as in the cases described by Professor Turner some years ago. The uterus was healthy. The valves of the left side of the heart were covered with small vegetations. Dr. Simpson went on to inquire—Was the obstruction of the artery produced by the separation of a cardiac vegetation, and its deposition in the humeral artery? or was it the result of arteritis? Or, lastly, was it the result secondarily of the phlebitic inflammation? The first supposition he had regarded as most probable, but until last summer he had had no opportunity of seeing a like case: a diagnosis had been formed then from the symptoms which had been verified after death. A young patient was prematurely delivered of her first child, and continued to recover for three weeks, when feverish symptoms and diarrhœa supervened, and the lochia became slightly hemorrhagic. Soon pains, like neuralgia, were experienced in the right leg, sometimes in the left, and often it was very violent. Seven weeks after delivery there was sudden pain in the left groin, and a loud systolic bruit was heard on listening to the heart. No rheumatism had preceded. Some days after, the pulse in the right arm became arrested suddenly, as the day before it had been felt by Dr. Moir, the patient's usual attendant. The day after, the pulsation had disappeared from the femoral arteries in both sides. At last gangrene appeared in the toes of the left leg, and the patient gradually sank. After death most of the abdominal and pelvic organs were found healthy, but the spleen was pulpy, and some lymph masses were deposited in it. The aortic valves of the heart were covered by friable vegetations, and the aorta just above its bifurcation into the iliac was occluded by a mass which extended along the iliac arteries, and was accompanied by purulent matter at several points. In the plugs were portions which resembled in appearance the valvular vegetations. A pulpy mass blocked the right humeral artery at its bifurcation. The left femoral vein was also inflamed. In general and microscopic characters, some parts of the occluding masses resembled the heart vegetations. Dr. Macfarlane had furnished particulars of a third case, which bore a marked resemblance to the last in its details; the cardiac vegetations were, however, very small. The brachial and femoral arteries were obliterated, and at the upper part of the occluding clots a small hard body was found, identical with the cardiac excrescences. Another case the author had through the kindness of Dr. Lever. The

patient had acute rheumatism during pregnancy, and afterwards lost arterial pulsation in both extremities on the left side. Gangrene and death of the patient were the result. The valves on the left side of the heart were found covered with vegetations, and both arteries and veins in the affected extremities were obstructed. The subject of separated cardiac vegetations had been brought before the profession in an admirable paper by Dr Kirkes, and Dr. Rühle had subsequently offered some suggestions on the subject. The cases mentioned by these authors were chiefly instances in which head disease had resulted from detached cardiac vegetations, and in the puerperal female this seemed sometimes to be the form of disease exhibited. Dr. Burrows, who for some time had paid much attention to the subject, had sent him (Dr S) the details of a case of this nature. The patient, who was apparently suffering from the effects of over lactation, and had obscure rheumatic pains in the limbs, became suddenly hemiplegic, after making a little more exertion than usual. On examining with the stethoscope, a loud rasping bruit was heard over the heart, synchronous with its systole. The memory was impaired, the speech affected; and with these symptoms the patient died. At the autopsy the mitral and aortic valves were found covered with vegetations. The left corpus striatum was a mere diffuent pulp, and the artery supplying this portion of the brain was occluded by a small mass like a grain of wheat, which was implanted in it at its origin from the middle cerebral artery. No examination was made of the arteries in the painful limbs. From the occurrence of hemiplegia, with the loud systolic bruit, the true nature of the case had been diagnosed by Dr. Burrows during the life of the patient. The five preceding cases were apparently of the same nature, and there were two circumstances which were true as applied to the whole of them—1st. In the whole, vegetations were found in the aortic valves. 2d. Loose portions, having a like appearance and structure to the cardiac vegetations, were found in the obstructed arteries. It seems certain, that if vegetations are detached from the cardiac valves, they must be carried along the current of the circulation; and it seems necessary to examine the circumstances or reasons which render it probable that such vegetations ever become detached. The author considered that the cause of obstruction could not have been simple arteritis in the preceding cases, inasmuch as the supervention of the symptoms was almost immediate. In all, the vegetations were probably the result of an endocarditis, and in three of them rheumatic symptoms were present during life. As to the reasons for supposing that such vegetations, when formed on the cardiac valves, might become detached, analogy might be taken, in the first place, from the spontaneous separation of adventitious structures in other parts of the body. Thus, cartilages and other bodies become detached in the interior of joints; polypi from mucous surfaces, and polypoid growths as described by Dr Reid and Mr Hodgkin, from the free surface of the peritoneum. In the heart are conditions which render the separation of vegetations much more probable than perhaps the detachment of polypoid growths in other parts of the body.

1st. The vegetations are often loosely attached, after death being easily removed with the handle of the scalpel. 2d. The valves to which they are adherent are parts constantly in motion. 3d. Currents of blood are ever rushing over them with considerable force. Exertion, or whatever increases the action of the heart, may cause detachment; and, when thus separated, they will be carried along, until, meeting with a vessel whose calibre is smaller than their bulk, they will become impacted. More than one result may follow such impaction: coagula may be formed from the blood around the obstruction; the artery may inflame where it is occluded, and this inflammation may involve the accompanying veins; lastly, the vegetations thus deposited may become disintegrated and pulpy, as was the case with the humeral artery in the second instance of the group just adverted to. The second cause of arterial obstruction was that in which recently formed coagula were projected from the heart into the general circulation. Fibrinous polypi had been found after death in the cavity of the heart and records of such cases might be found in several works on "Pathology." They were specially likely to be formed when endocarditis was present, as their rough projections might be present on the internal

cardiac surface, which would form a nucleus for fibrinous deposition, and a super-fibrinated condition of the blood would favor their formation. Were these two conditions present, there would be the chemical tendency to coagulation, and facilities of a mechanical kind for entangling the readily-deposited fibrin. Experiments, in which foreign bodies were projected into the cavity of the heart seemed to have established as a fact, that fibrin is deposited around bodies so projecting. M. Cruveilhier mentions a case detailed by M. Langier, where a needle passed quite through the cavity of the heart, and remained so imbedded. Gangrene of the lower extremities followed, and it was believed that fibrin which had coagulated around the needle in the cavity of the heart had become detached, and caused the existing obliteration in the arteries in the lower limbs. M. Legroux's case, of which an abstract appeared in the *British and Foreign Medical Review*, favored this view. The patient had suffered from rheumatic endocarditis, arterial obstruction suddenly supervened, and old fibrinous clots were found in the heart. Several arteries in the body were occluded. In another case, a puerperal patient of Dr. Macfarlane's, who had suffered from rheumatic endocarditis, and evidently had diseased aortic valves, arterial obstruction followed, and the patient died some time afterwards. The subclavian artery (which could only be examined) was plugged with a fibrinous clot, but no traces of vegetations were found. Thus it would seem, that fibrin deposited on valvular excrescences may be detached without separating the vegetations themselves. To illustrate the third cause, or that of local inflammation of an artery, in puerperal patients, obliterating its canal, two cases were mentioned as having occurred respectively in the practice of Drs. Duncan and Cowan. Dr. Duncan's patient came under his treatment while surgeon to the hospital. She had acute gangrene of both lower extremities, and had been confined only two weeks. After death, the aorta was found blocked by a firm fibrinous exudation, which descended along the iliac arteries, and in some situations was closely adherent to the arterial walls. The coats of the obstructed arteries were much thickened. The fourth cause of arterial obstruction in puerperal females was, a diseased condition of the blood, or morbid matters absorbed, and effecting changes in it. Phlebitis often occurred in puerperal patients, and in many of these cases pus must mix with the blood and pass into the circulation. Pus was believed to cause coagulation of the blood when introduced into the vessels,—at least in some circumstances; and cases were on record where the pulmonary arteries had been occluded in puerperal patients while suffering under uterine phlebitis. Two cases of this nature are recorded by M. Cruveilhier. It seemed not improbable but that the lobular pneumonias occurring in such patients might result from the occlusion of the artery supplying the pulmonary lobule; and the lymph deposits in the spleen, liver, and kidneys, may have a like origin. The last cause of puerperal arterial obstruction was, laceration of the internal coats of an artery. The members of the society were referred to an excellent paper on this section by Mr. Turner; and a case had since been published in the *Provincial Medical and Surgical Journal* by Dr. Oke, of Southampton, as one of those to which Turner had drawn the notice of the profession. Dr. Oke's patient had uterine hemorrhage, terminating in abortion. Three days after, her left arm had become cold and insensible, and the tips of the fingers discolored. No pulsation could be felt in the limb. The action of the heart, and the respiration, were natural. The tips of the fingers became gangrenous, and dropped off, but the gangrene proceeded no further, and the arm recovered its natural plumpness. The patient is still alive, and no heart affection can be detected. The time would not permit a further detail of cases, but, before concluding, Dr. Simpson had a few remarks to make on the effects of arterial obstruction. The symptoms would, of course, vary according to the artery obstructed. Thus, in the fourth case, where the middle cerebral artery was obstructed, Dr. Burrows found sudden hemiplegia, followed by symptoms of ramollissement, in a young puerperal subject, and these, with the valvular disease, led to a correct diagnosis. When more is known of the subject, it may be found that other organs, which are principally supplied by one artery, have their functions suddenly arrested by the impaction of small vegetations in their canals. Sesta, Corvisart, and Stokes give instances where, in patients suffering

from heart disease, one eye had become suddenly destroyed without apparent cause or explanation. Were these cases of arterial obstruction, where a small vegetation had obliterated the ophthalmic artery, and thus cut off the greater supply of blood? Our knowledge on this subject seems as yet confined to arterial obstruction occurring in the extremities. It is possible that the arteries supplying other internal viscera may be occluded in a similar manner as the cerebral or ophthalmic, but as yet we are quite unacquainted with the symptoms of such lesions. In the extremities, besides fever and symptoms of endocardiac disease, we have, first, arrestment of pulse. As we are not in the habit of examining the arteries in the lower limbs, this may be overlooked; or, after ceasing for a time, the pulse may return to some extent by the collateral circulation, and this symptom may pass unnoticed. 2. Pain in the limb supplied by the occluded artery; and this in proportion as the vessel is perfectly or less obstructed. If the occlusion is sudden and complete, there may be at once paralysis of sensation and motion, as occurred after the celebrated operation in which Sir A. Cooper ligatured the aorta. Sometimes the pain may be slight, and a pricking sensation be present; but generally the pain is intense and excruciating. The sudden supervention of the pain, and its severe character, would at once raise a suspicion of arterial obstruction. The cause of the pain in these cases seems obscure. It has been ascribed to neuritis by some authors; but, in the second case mentioned, the nerves were not implicated in the inflammation. Again, by Mr. Tuffnell, it was ascribed, in aneurismal cases treated by compression, to distension and pressure on the nerves. Cruveilhier believed the nerves in the coats of the vessels becoming inflamed to cause the pain. In a case of aneurism lately injected with the perchloride of iron, the pain was instantaneous and intense; if the result of inflammation it could not have occurred so soon. When gangrene occurred, it seemed to be produced by the arterial supply being so far cut off as at once to destroy the vitality of the limb. After some remarks in apology for the crude and unfinished remarks he had presented to the society, Dr. Simpson concluded his paper.

In reply to questions by Dr. Gairdner, Dr. Simpson said, that in several of the cases he had mentioned, the symptoms of obstruction had supervened suddenly without symptoms of arteritis, and that after death small masses unattached to the walls of the vessel were found in the affected arteries. These masses were identical in appearance with the cardiac vegetations. The principal difference between the cases just described, and those of Dr. Turner was, that in the former no laceration or puckering of the vessel could be detected, while it was present in Dr. Turner's cases. Again, in the latter, no heart disease was recorded.

ART. 130.—On the questionable utility of Chloroform in Midwifery.

By Dr. ROBERT LEE, F.R.S.

(*The Lancet*, Dec. 24, 1853.)

Dr. Lee's paper, which was brought before the Royal Medical and Chirurgical Society, consists of an account of seventeen cases of parturition, in which chloroform had been inhaled with pernicious effects.

In these seventeen cases the author traces a series of injurious consequences to the employment of chloroform during labor. Thus, in Cases 1 and 2, the contractions of the uterus were arrested by the chloroform, and delivery was completed by craniotomy. In Cases 3, 4, 5, 10, 14, 15, and 16, insanity and great disturbance of the brain followed its use. The necessity for delivery by the forceps was attributed to its employment in Cases 6, 8, 11, 12, and 13. Dangerous or fatal peritonitis or phlebitis ensued after the exhibition of chloroform in Cases 7, 8, 11, and 13. Epilepsy occurred in Case 14; and dangerous fits of syncope arose from its use in Case 17. The reports of friends had confided many more analogous cases, and public rumor swelled the list still further, but he was desirous of confining attention to those which came directly under his own observation. He thinks that a contemplation of the subtle action of this poison on the nervous system would have induced caution in its application to practice; but, on the contrary, the greatest levity had characterized its employ-

ment. Very soon after the discovery of its physiological effects, the author was astonished and confounded by the announcement of its application to midwifery; and it was not difficult for him to foresee that rashness in its application and use would lead to most deplorable results; and he regretted to find that in this he had not been mistaken. It was not wonderful that women doomed to bring forth their offspring in pain and sorrow should seek to escape from the troubles of our race by means of this treacherous gift of science; neither could we feel surprise that the instances of women who were saved from the grievous pains of child-bearing, without bad consequences, should have for a time reduced to silence those unwelcome monitors who pointed to the possible evils of this new agent; but it did seem strange to the author that, amidst so wide-spread an experience as now existed of the noxious and dangerous effects of chloroform, it should be necessary for him to assemble the proofs of the havoc it had made. The two most serious effects produced by chloroform on women in labor were, a languid and deficient contraction of the uterus, and a greater susceptibility to the risks that arise from inflammation and fever. With regard to the first, the direct testimony of his own senses convinced him that the action of chloroform did very manifestly slacken the uterine contractions, and in some cases had put a stop to them altogether. Of the second class of effects, the risks of the puerperal condition were much complicated; for to inflammation and fever must be added severe cerebral and nervous disorders. He has no doubt that the use of this noxious agent ought to be expelled from the practice of midwifery. In conclusion, the author observes that, though his opinions had been confirmed by conversations with the most discreet and experienced practitioners, yet he entertained grave doubts of the result of the present appeal to the good sense of the profession, when he considered the arts used to propagate a faith in this practice. It had become almost an extra-professional question. There was a systematic concealment of truth by physicians; appeals were made to the natural timidity of woman, and the most fallacious promises of perfect safety were boldly held out. Conceited or ignorant women of fashion made a pastime of this as of other quackeries, and the cause of science and humanity was placed in the hands of the most presumptuous and frivolous part of the community, while young and inexperienced mothers were decoyed to their destruction. If he had helped to rescue the medical profession from the dominion of a great and dangerous error, and had placed some restraint on an ignominious and disgraceful practice, the author would rest satisfied that this essay had not been written in vain.

Various remarks having been made by different Fellows of the Society after the reading of the paper, Dr. Lee proceeded to reply to them.

He contended that there was no resemblance between a surgical operation and the process of natural labor. In natural labor, if the pains are strong and regular, women, in a vast majority of cases, are exposed to little danger, require no artificial assistance, and the function is only disturbed by interference. Mr. Fergusson had just stated that one of the principal benefits derived from chloroform in surgery is the great amount of muscular relaxation which it produces during operations. In midwifery this great amount of muscular relaxation would produce the most mischievous results; it would, in fact, induce partial or complete paralysis of the uterus, as in the case just related by Dr. Merriman, and in several of the cases detailed in the paper read that evening. A striking and fatal example of the same kind had occurred since the paper was presented to the Society. Only three drachms were used in the first stage of labor, but no proper contractions followed the expulsion of the fœtus, and the uterus remained uncontracted till the death of the patient some days after in convulsions. There were no symptoms of puerperal fever or local inflammation. "The uterus did not go down to the usual size, so much so as to give rise to the suspicion that there was another child, or some ovarian disease; but there was neither." Dr. Snow had related to the Society a case of arm presentation, where the uterus was completely paralyzed by the chloroform he exhibited, that Mr. French turned with great ease, the contractions being so violent that he had contemplated eviscerating the fœtus. Yet Dr. Snow affected to doubt whether chloroform and narcotic poisons impair the action of the uterus, and had expressed an opinion that in the cases he (Dr. Lee) had related in the paper, the sudden ces-

sation of the uterine contractions after its use could not be referred to it. It was impossible to reconcile such contradictions, but they admitted of a ready explanation. He lately perused a letter written by a fashionable lady, soon after her confinement, to a physician, which contained the following passage:—"Chloroforme à la reine, just a few drops on a handkerchief from time to time for the last hour; I found it a most indescribable alleviation, and that though never insensible." This was a correct account, he believed, of the way in which chloroform was administered by Dr. Snow in natural labor, and it would account very satisfactorily for his assertion that the uterine contractions were little, if at all, impaired by it. Fifteen drops sprinkled upon a handkerchief, and the lady now and then permitted to sniff a little of the vapor from the corner in the last hour of labor. If he (Dr. Lee) might be allowed in plain language to characterize this proceeding, he would say that the whole was a mere pretence, and calculated only to deceive the weak, ignorant, and credulous. The anæsthesia from chloroform, of which Mr. Fergusson had spoken, and which was usually, as he understood, the result in midwifery, was quite another affair from the *chloroforme à la reine* of Dr. Snow. Last week he saw a surgical operation performed upon a young woman, to whom six drachms had been administered. Her pupils were widely dilated, the breathing stertorous; there was foaming at the mouth; the pulse was rapid and feeble, and there was convulsive twitchings of the muscles of the extremities. No man in his senses would venture to reduce a woman to such a frightful condition in natural labor. In surgery it might be considered justifiable, but in midwifery it was wholly unjustifiable. Dr. Gream had stated that two ounces of chloroform might be given with safety in cases of natural labor; and though he admitted that it decidedly had the effect of diminishing the strength and regularity of the uterine contractions, yet still its influence might be so managed as to prevent the progress of labor being interfered with. If Dr. Gream would stand up in the face of the Society and state how chloroform could be so managed, he (Dr. Lee) would immediately sit down. (Dr. Gream here expressed his dissent; but Dr. Lee affirmed that this statement had been published by Dr. Gream in his pamphlet.) In forceps cases (continued Dr. Lee), and in all the great operations of midwifery, chloroform could produce nothing but mischief; for in all these cases consciousness was the great safeguard of the patient. No forceps cases—and he had had as many as any person in that Society—were so unmanageable as those in which the consciousness was lost from puerperal convulsions, where the patient could not be held in the same position for any length of time. In uterine hemorrhage, and in all cases of protracted labor, from whatever cause, nothing but mischief could result from the use of that narcotic poison. The exhibition of chloroform in labor he held to be contrary to the sound principles of physiology and morality. "In sorrow shalt thou bring forth children," was an established law of nature—an ordinance of the Almighty, as stated in the Bible, and it was in vain to attempt to abrogate that law. There could not be a doubt that it was a most unnatural practice to destroy the consciousness of women during labor, the pains and sorrows of which exerted a most powerful and salutary influence upon their religious and moral character, and upon all their future relations in life. But he might put aside all these physiological and moral considerations, and rest his objection to the use of chloroform in labor upon the danger of introducing a subtle narcotic poison into the system at such a time. When only one drachm was given, who could be certain that it should not instantaneously be followed by the death of the person to whom it was administered? Upon this point the whole questions might be allowed to hinge.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 131.—*Case of Phlegmasia Dolens in a virgin.* By Dr. M'CLINTOCK.

(*Dublin Quarterly Jour. of Medicine*, Nov., 1853.)

This case differs from the generality of such cases in being purely idiopathic; the patient having had no attack of metritis, of suppression of the menses, or of any other disease of the uterus.

CASE.—A young lady, æt. 18, recently suffering from scanty menstruation, with a tendency to chlorosis. The attack appears to have been caused by standing for some time upon damp grass. Treatment was delayed for three days, at the end of which time the symptoms were found fully developed. Leeches were then applied over the femoral vessels. The entire limb was constantly stuped, and rest and low diet were enjoined. The acute symptoms subsided in a week. One relapse took place, but the patient eventually got well, many months, however, being occupied in the process.

ART. 132.—*Case of Retention of the Menses simulating pregnancy.* By Dr. HECTOR PELTIER, Physician to the Hôtel Dieu at Montreal.

(*Montreal Monthly Journal*, Jan., 1854.)

Dr. Peltier relates this case as follows:—

“**CASE.**—A young lady, æt. 20, after exposure to cold and getting her feet wet, whilst her menses were upon her, was suddenly seized with rigors, followed by a little fever and arrest of the discharge. She, however, did not pay attention to this. She remained three months without menstruating, when I was called in to set all right. Now as the period for the customary appearance had elapsed, I waited until the next monthly period.

“Since the age of fourteen, when menstruation began, she never experienced anything of the kind, though she said (and unfortunately many young girls are too confident on this point) that she had often got her feet wet without the least inconvenience supervening. At this time, the fourth month, the abdomen was somewhat voluminous, in fact, looking very much as it does at the fourth month of pregnancy. The young girl, who before the stoppage was inclined to become stout, lost flesh, as also happens in similar periods of pregnancy.

“My confidence in the education and moral character of the young lady, kept me, through false delicacy, from asking any question or making any examination, which might have given me, probably, a decided opinion of the case.

“Under these circumstances, I recommended simple emmenagogues, such as absinthe, and four pills of myrrh, aloes, and assafœtida, two in the morning and two at bedtime, for three consecutive days. These had no more effect than they would have had in an old woman past 50. Not wishing to continue any harsh treatment, I waited until the fifth month. At this period, the mother, though full of confidence in her daughter, began to fear that something wrong might have happened. The abdomen had become larger, and gave all the outward appearance of pregnancy. This time I gave no remedy, leaving nature to her course, and assured the mother that there was no pregnancy.

“Between the fifth and sixth months there was bleeding from the nose. This circumstance confirmed me a little more in my belief of simple suppression of menses. I had not yet given any attention to what might be the case, if not that but pregnancy.

“At the sixth monthly period I repeated the same emmenagogues, and advised driving out instead of walking, as heretofore. All this was of no avail. The mother was very uneasy on account of remarks frequently made as to her daughter's appearance. As she could not go out walking or driving in town without her appearance calling suspicion, I recommended then the country air, expecting that there, by plenty of exercise, menstruation might reappear. At the seventh monthly period I did nothing, and left all to nature.

“There was no change during these seven months worthy of attention, except the volume of the abdomen continually increasing, the bleeding from the nose, and occasional pains in the back and sick stomach.

“The eighth month came and all in same state.

“On the 8th of October last, in the afternoon, I was sent for hurriedly. The mother was in an awful excitement—the father had left the house, after having given his malediction to his daughter. The girl herself was very anxious, but was calm under the trial. As I entered the room, the sofa and floor underneath were covered with what appeared a viscid fluid, like dissolved gum arabic, and also a very great quantity of clotted blood. She was pulseless, in an extremely

weak state. My anxiety was exceedingly great. I had no time to lose; therefore I introduced my hand in the vagina, but could not succeed in entering even the finger through the os tincæ. The blood, through the small aperture, was continually flowing, and the abdomen became quite flat. I remained for two hours near the patient, and during that time she rallied so much that she considered herself as well as ever. To the touch, the neck of the uterus was extremely hardened, and retaining nearly the same shape as if the uterus had not been expanded. The after-treatment of such a perplexing case was very simple. I ordered a nutritious diet twenty-four hours after this occurrence, injections of cold linseed tea, per vaginam, to relieve the induration of the neck of the uterus. It was, indeed, relieved, and the flow of blood continued for eighteen days afterwards. Since then her menses have reappeared regularly, and her health is perfect.

"This flood took place eight months and a half from the last appearance of the menses."

ART. 133.—*Ergot of Rye in chronic Leucorrhœa.* By M. LACOWSKI.

(*Rév. Théor. des Méd.*, Oct. 15, 1853; *Gaz. Hébd.*, Dec. 2, 1853.)

M. Lacowski recommends very strongly the use of ergot in cases of chronic leucorrhœa, and says that by its means (aided by quinia) he has cured many cases which had resisted other treatment, the time occupied in the cure varying from ten to twenty days. His formula is—

Powdered Ergot	4 grammes,
Powdered Saffron	5.50 centigr.
Powdered Vanilla	25 centigr.
Powdered Camphor	25 centigr.

This quantity he divides into twenty powders, and gives one night and morning in decoction of cinchona.

ART. 134.—*On internal Metritis and Uterine Catarrh.*
By Dr. TILT.

(*Medical Times and Gazette*, Dec. 3, 1853.)

The object of this paper is to draw attention to the more obscure forms of uterine disease which have their seat in the mucous membrane which lines the neck and the body of the womb. The author describes subacute inflammation of the mucous membrane of the neck of the womb, and contends that to that disease alone the term uterine catarrh should be applied. He also shows that, by giving it to acute inflammation of the neck of the womb, the French pathologists had been led to use uterine injections into the cavity of the womb, to the danger of the patient's life, and for a complaint amenable to much milder treatment. Subacute inflammation of the mucous membrane lining the womb is said to be characterized by the usual uterine pains and hysterical phenomena, and by inconsiderable swelling, if any, of the neck of the womb, which was sometimes only painful on pressure laterally applied, the discharge being rarely muco-purulent, generally mucous, and sometimes sanious, and several cases are detailed in which this occurred for years. In addition to the known means of treatment, Dr. Tilt strongly advocates the topical application of tincture of iodine to the inner and outer surface of the womb—the dressing to be repeated every four or five days. Acute inflammation of the mucous membrane of the body of the womb cannot be distinguished from the inflammatory affections of the whole organ, but in some cases of menorrhagia this mucous membrane was alone affected, and threw off a false membrane different from the decidua membranes which have been hitherto described. In proof of this assertion a morbid specimen was exhibited, taken from a young woman who died of menorrhagia under Dr. Watson. Dr. Tilt thinks that future researches will show that there was a chronic inflammation of the body of the womb going on in most of those cases

of dysmenorrhœa which were accompanied by exfoliation of the mucous membrane of the womb. He suggests this as a matter of inquiry, and speaks in praise of hypogastric issues in this tedious complaint. A form of internal metritis is then described, to which he gives the name of hemorrhagia, to mark the symptom by which it was habitually accompanied. In illustration, a case is related in which the treatment usually employed was useless to arrest the disease, astringent injections, cauterisation of the neck of the womb with the nitrate of silver, as well as internal remedies, being without avail; whereas, when large doses of morphia, two grains per diem, were given to allay pain and calm hysterical symptoms, the sanguineous and semi-purulent discharges were checked, and the patient recovered. Another variety of internal metritis is described under the name of "fibro-plastic," because it was characterized by the growth of fibro-plastic vegetations on the surface of the womb—these vegetations giving rise to sanguineous discharges and uterine symptoms, developed to an unusual degree of severity. With regard to the local treatment of the various forms of internal metritis, the author deprecates the use of uterine injections, on account of the uncertainty of their action, either in a similar set of cases or even in the same patient—admitting, however, that they might, perhaps, be useful in some cases of the fibro-plastic variety. In that disease he recommends the careful introduction of Recamier's curette, a uterine sound a little larger than Dr. Simpson's, somewhat curved at its extremity, and hollowed out under its curvature, so as to remove the vegetation by gentle abrasion. Dr. Tilt has also found this instrument very useful in removing portions of retained placenta, the presence of which are indicated long after parturition, by flooding, by an enlarged body of the womb, and by uterine symptoms. He also mentions sundry improvements in the construction of this instrument, which he had confided to the known dexterity of Mr. Coxeter. Dr. Tilt next brings forward another plan of treatment, which he had found very successful in one case of the fibro-plastic variety, which was, after the application of the speculum, to introduce into the cavity of the body of the womb Dr. Simpson's uterine sound, carefully surrounded by cotton-wool, saturated with tincture of iodine. The vegetations came away with a sero-purulent discharge after a few days, the operation was again repeated, and the patient was in a short time relieved of a sero-sanguinolent discharge which had lasted for years, and her health was restored.

In conclusion, the author insists on the very numerous instances of diseases in which the tincture of iodine had been with perfect impunity introduced into the tissues of the body, and from that, and still more from the results of known practice, he inferred that tincture of iodine and iodide of iron were the topical applications from which practitioners would derive the greatest assistance in the treatment of uterine diseases.

ART 135.—*On the diagnosis and treatment of some of the diseases included under the term "Prolapsus Uteri."* By Dr. SNOW BECK, F.R.S.

(*The Lancet*, April 8, 1854.)

The division into "perfect prolapsus," and "imperfect prolapsus," is adopted as being best suited to the short limits of the paper. On the subject of perfect prolapsus Dr. Beck gives the definitions and descriptions of some of the most esteemed authors, to show the disease meant by the term; thus: "A tumor, often very large, hanging out between the thighs, and the vagina turned inside out, constitutes the external covering. In the sac thus formed, especially if of long standing and large, there is contained the bladder, rectum, and some portion of the small intestines, the mesentery being stretched, and the omentum occupying any vacant space." Could such a tumor fairly be called a prolapsus of the uterus?—and, in reply, the author stated he had examined the physical characters of a similar protrusion, which were found to answer to those of large hernial protrusions in other parts of the abdomen. He then puts and discusses the question as to the name which ought to be applied to such a tumor occurring in any other part of the walls of the abdomen, which led him to the conclusion that the diseases termed prolapsus of the uterus were in fact hernial protrusions,

occurring through the vaginal outlet of the pelvis, the uterus being a portion only of the contents of the sac. This position is further strengthened by pointing out that the annoyance arising from these protrusions arises only from the mechanical impediment to progression which rendered their analogy to hernia complete.

On considering the subject of imperfect prolapsus, he again quotes the symptoms given by the same authors to show the disease implied by the term. The chief symptoms are found to be a sensation of fullness in the pelvis, weight, and bearing down, dragging from the loins and umbilicus more or less pain in the back, extending round the groin, great distress from attempting to stand or walk, which was much worse in the evening and in the morning and more or less vaginal discharge, these symptoms being attended with much constitutional disturbance, and ending in "a broken constitution." These symptoms differed so essentially from those attributed to perfect prolapsus, that they could not be considered to apply to the same diseases, differing only in the degree of the displacement. On further analysis the symptoms of imperfect prolapsus are shown to arise chiefly from those inflammations of the vagina, which had been much overlooked in treating of the diseases of females. The author then draws the practical deduction—(a) that, contrary to the received opinions, displacements of the healthy uterus are not followed by any notable inconvenience to the female; (b), that when symptoms arise they are the consequence of some inflammatory affections of the uterine organs, which constitute the essential disease, the displacement being only an accidental accompaniment; (c), that the disease termed perfect prolapsus were really hernial protrusions, occurring through the vaginal outlet; and (d), that those included in the denomination, imperfect prolapsus, were inflammatory affections of the uterine organs, and chiefly of the vagina. These distinctions are pointed out as very important in regard to the treatment, inasmuch as the hernial protrusions (perfect prolapsus) required, as in other similar cases, mechanical contrivances for their support; whilst in the inflammatory affections the same mechanical means were actually injurious, the proper treatment being that calculated to reduce the inflammation. The various means employed in giving support to those hernial protrusions are glanced at, their principles of action pointed out, as well as the objections to each. The inefficiency of all kinds of support introduced into the vagina is shown to be practically acknowledged by their being seldom employed in the present day, whilst the proper means of supporting a hernial protrusion (complete prolapsus) is considered to be by pads properly applied to the perineum, and efficiently retained there. Great stress was laid upon these pads being adapted to each individual case, as in the examples of hernia occurring in other situations. For, from a want of a similar precaution, this method of treatment had fallen into considerable disrepute. The various operations recommended for the relief of these affections were further considered as inapplicable, or only of benefit in exceptional cases. In the treatment of these inflammatory affections, included under the term incomplete prolapsus, all mechanical interference was pointed out as being injurious, whilst the proper means of relief consisted in removing the inflammation present, by general or local remedies, as each case might require.

ART 136.—*On the Diminution and Disappearance of Uterine Tumors.* By Dr. ASHWELL, ex-Obstetric Physician to Guy's Hospital.

(*The Lancet*, Feb 18, 1854.)

In this paper Dr. Ashwell relates several cases for the purpose of showing the occasional diminution and disappearance of uterine tumors, without any apparent breaking down of their structure. He does this in order to encourage patience and perseverance in the treatment, even of doubtful cases, for he inclines to believe that scirrhous itself may occasionally have undergone this change.

We select two of the cases given, merely stating, before relating them, that in all of them, treatment (especially by iodine in tincture and ointment) had been long pursued, that nutritious, unstimulating diet, mild malt liquor, and light wines were allowed; that resort was only occasionally had to leeching near, not

over, the seat of pain, and still more rarely to cupping on the loins; that *purgatives* and *aperients* were exhibited only when it was evident that the bowels required to be unloaded; that *setons* over the site of the tumor produced, in several instances, marked benefit, and further, that in all the numerous cases which have fallen under his notice, the *recumbent posture*, and, as far as possible, the avoidance of sexual intercourse, but particularly the former, have been *strictly* enjoined.

"CASE 1.—April 22d, 1843.—Miss —, æt. 48, resides near Hounslow, and has formerly been under the care of Dr. Blundell and her own medical attendant. First perceived a tumor about the size of a small melon three years ago. It was then low down in the hypogastric region. Her health did not then suffer, but two years since menstruation became profuse, and there was also much uterine bleeding. Iodine was used, and various means were employed to arrest the hemorrhages.

"Now the tumor is as large as a moderate-sized adult head, lobulated, and in several of its more prominent portions of *extreme* hardness. It reaches nearly as high as the umbilicus, and protrudes the abdominal integuments, giving to the patient the appearance of a pregnancy of the fifth or sixth month. Has frequent cutting pains in and about the tumor, and is greatly inconvenienced by the weight, pressure, and tension. The growth is not tender to the touch, not even in those portions where there is constant pain. Walking is difficult. Internally the vagina is capacious, and there is much mucous discharge. The os uteri is patulous; and its lips, together with the cervix, are soft and swollen, but without any spots of induration. The most alarming symptom is the hemorrhage: which, without any assignable cause, is sometimes so excessive as to induce long-continued faintness. Cold applications are often employed for several days before the bleedings are arrested. She has lost flesh, and is very weak; her countenance is anxious and very pallid, pulse 110; bowels constipated; appetite bad, she is restless and irritable, and often extremely depressed. Tincture of iodine, six minims, three times a day, in a little sugared water, and the iodine ointment every night over the tumor, were prescribed.

"For several years I watched this patient, she being often in extreme danger from the bleedings. The use of the iodine was frequently suspended, and various remedies, rendered necessary by exhaustion, were employed in its stead. In 1847, Miss —, being then fifty-two years of age, menstruation ceased, and at that period the hemorrhages became far less frequent, and the tumor was manifestly less.

"Nov 22d, 1849.—Miss — called upon me, saying that the bleedings had returned very rarely, and never to great extent. She had regained her flesh, and was in very tolerable health. The tumor was not larger than an orange. By examination 'per vaginam,' I could discover scarcely any hardness of the cervix.

"May 9th, 1851.—I find the following entry in my case-book: 'To-day, Miss — calls to consult me about some slight derangement in her general health. I can, externally, scarcely make out any tumor, and as to the os and cervix, there is scarcely any appreciable induration.'

"March 22d, 1852.—Again Miss — comes to me on account of slight indisposition. The tumor cannot be felt externally, and it is only by pressing the fingers deep down into the pelvis, behind the pubis, that it is all perceptible. There has not been any vaginal discharge for several years.

"I may, in concluding the history of this case, remark, that I have very recently seen Miss —, and, but for indigestion, she is in good health. There is just as much of the tumor to be felt as at the last examination.

"CASE 2.—Mrs B—, æt. 48. This patient (then Rose E—) was under my care in Petersham Ward, Guy's Hospital, for several months up to May 15th, 1837. She was admitted when suffering considerable pain from a large *hard* uterine tumor, about the size of a child's head. I fully recollect the progress of the case, as I visited her from time to time, in going round the ward; but, unfortunately, the book containing the earlier history has been lost or mis-

last. The continuation of the history, of the dates from the hospital-book, is as follows—

"June 17th, 1837.—She left the hospital the second week in May, having experienced very great relief, since which time she has been an out-patient, and has been taking six minima of the tincture of iodine in an ounce of water, three times a day. She is at present in better health than she has been for the last two years, catamenia regular. She is unwell at present; feels herself sensibly diminished in size since her admission, and complains of no pain whatever. She is to continue the use of the iodine ointment."

"For several months after June, 1837, I occasionally saw this patient, the tumor continuing slowly to diminish. From that time I lost sight of her till May, 1853, when she called to consult me about some affection of her lungs, attended with cough. On examination externally, no tumor was perceptible, even when the fingers were pressed deeply down behind the pubis, and the cervix uteri is quite healthy."

"Mrs B.— married in November, 1837, the tumor then being as large as a small melon. She has been pregnant only once, and aborted at two months; this was very soon after marriage. She has ceased to menstruate two years. This tumor decreased rather more rapidly for two or three years after her marriage, and she assures me that for the last four years it has been as imperceptible as it is at present."

ART 137 — *A new Instrument for Uterine Hemorrhage.*

By MR. DE BERDT HOVELL, of Clapton.

(*Medical Times and Gazette*, Jan. 8 and 12, 1854.)

This instrument is recommended as a means of affording very valuable assistance in the treatment of that form of uterine hemorrhage which occurs after labor from relaxation or inertia of the uterus. It is extremely simple, it is applied instantaneously without disturbing the patient in the least; it keeps its position, without tending to slip up towards the ribs; it does not tend to produce prolapsus of the uterus; and it does not interfere with the use of cold affusion, or of any other means which may be deemed necessary. Properly made it acts very like the hand; and then it has this advantage over the hand, that it does not tire. Altogether, we consider the invention to be one of considerable practical importance.

This instrument consists (1) of an oval abdominal pad, slightly concave, 6½ inches by 4½ inches, which is applied transversely in place of the hand, immediately above the pubes; (2), of a circular counter-pad, 4½ inches in diameter, which is applied upon the sacrum, and (3), of a steel spring of 7½ lbs. pressure, which passes round the ilium and connects the pad and the counter-pad. A larger pad and a stronger spring may be used and the pressure of the spring may be adjusted so as to be increased, if necessary, by adapting an Arnott's regulator to the spring. For the sake of portability, the pads are connected to the spring by thumb-screws, so as to admit of their removal.

The instrument is applied in a moment, and there is no necessity that the patient should stir from the position in which she is placed during confinement; indeed all that is necessary is to separate the pads, and slip them over the ilium to their respective positions, and then leave the spring to do its work.

Speaking of the class of cases in which this instrument may be wanted, Mr. Hovell writes: "It is unnecessary to enter upon any discussion of a class of cases familiar to every practitioner in midwifery; but, for the sake of clearly defining it I will quote the words of Dr. Blundell on the subject: 'Some women there are, from idiosyncrasy, peculiarly liable to bleeding, and very undesirable patients they are, the probability being, that they will ultimately die under your hands.' Hence it becomes a question in cases of after-flooding, whether we can use any means of prevention."

"Such a patient it fell to my lot to attend in four out of nine confinements. Her labors were rapid at the last, the placenta slow in separating,—on one occasion, I was informed, four hours and a half, then normally; from three to four hours after the separation of the placenta, the uterus remained in a lax, flabby

state, occasionally contracting, and expelling its accumulated contents, giving rise to considerable hemorrhage, attended with exhaustion, syncope, &c. Under these circumstances, pressure with the hand, cold, and ergot were employed successfully; but not without the cost of time, fatigue, and anxiety.

"In the last confinement of the same patient, the labor was of the usual quickness, the child large. Immediately after the separation of the placenta, I applied the 'uterine truss,' and kept it on two hours, until the accession of after pains. During this time the uterus remained very fairly contracted, never exceeding the size of an ordinary melon; only one discharge of blood took place, and that with an audible gush, about three-quarters of an hour after the application, showing the contracted state of the uterus, altogether, the amount of the hemorrhage was considerably less than usual, and the patient, in the words of her friends, 'never did so well.'

"I have tried the truss in several cases, both of relaxation from idiosyncrasy, and inertia after protracted labor. I have kept it applied three and four hours at a time, and I have never known hemorrhage to occur to any extent during its application, nor have I found the least ill effect follow its use. It often produces an expression of comfort on the part of the patient, which continues until it is time to remove it."

ART. 138.—*Two cases of Partial Chorea occurring during Pregnancy.* By Dr. J. M. DUNCAN, Physician-Accoucheur to the Royal Dispensary, Edinburgh.

(*Edinburgh Medical and Surgical Journal*, Jan., 1854.)

The cases are interesting, as showing the real state of the system in chorea, and the circumstances inducing this malady. "In both there was a distinct asthenic state of the system, characterized by pallor of the surface, weakness of pulse, dryness of skin, and other unmistakable signs of general bad health; and in one the previous occurrence of chorea formed a strong predisposition." In our opinion the immediate cause of the symptoms was the pregnancy—was, that is to say, the exhaustion caused by the growth of the child in a mother already so much enfeebled as to be unable to supply the materials of her child's growth without impoverishing her own system.

Mrs. H. was first affected with chorea when she was 16 years of age. Menstruation did not commence at this time, but was delayed till she was 18. The motions began in a very slight form, affecting first the ankles only, but soon the whole legs and also the hands and fore-arms. They were always much aggravated during summer, and continued more or less severe till about the beginning of 1850, when they were either entirely absent or so little troublesome as not to attract her attention. In the course of 1850 she was married, at the age of 32 years. After this she continued in very good health till about the middle period of her first pregnancy, which ended favorably in the birth of a male child in July, 1851. She had passed through the first half of the pregnancy in good health, but after that she began to be troubled with the choreic motions of the entire lower limbs and chiefly, as on former occasions, of that of the left side. The movements were described as very annoying, only at night, and chiefly on lying down in bed, when they continued so long as to deprive her of much sleep. When the motions were worst in the limbs, there were occasionally also some affecting the hands, the fore-arms being still. The movements occurred only in the evening and at night, unless she sat in one position for a long time, as in church, when they sometimes commenced.

"The motions had been very troublesome for about six weeks before I was consulted. There was no other complaint. The morning sickness was only occasional. Her appearance was that of a delicate dyspeptic female; the skin was pallid, dry, and harsh, the tongue whitish, and deeply fissured in all directions, the bowels were regular, and the urine natural. I ordered the use of large doses of carbonate of iron (ten grains) thrice daily, and a moderate dose of laudanum to be taken at bedtime, also the use of a full diet, with good beer. After this plan of treatment had been continued for some days, she was generally able to get to sleep in a short time after going to bed, without the laudanum. The iron and diet were persevered in till within a few days of her confinement;

but for nearly a month before this, the motions had entirely disappeared. Her confinement was natural; only, during the inhalation of chloroform, the choreic movements were reproduced in a troublesome way. The recovery was not unfavorable, except that an abscess formed in one mamma. She nursed her child. In the end of 1852 she was again confined under favorable circumstances; and since the attack in the first pregnancy she has not had any motions worth mentioning.

"Mrs. R., a lady of middle age, was travelling in Scotland during the summer. She was pregnant, and was gradually becoming worse and worse in general health, from symptoms which she connected with her being in that condition. In consequence she came to Edinburgh on her way home to England. Mrs. R. has generally enjoyed good health, and never has had chorea—is the mother of several children, the last only of which was still-born. She is now in the sixth month of her pregnancy—has the look of a woman of originally good constitution, but is at present thin and of unhealthy appearance. Her pulse varies in frequency, is never rapid, but weak; the skin dry and scurfy; she complains of burning heat in hands and feet—tongue not foul—suffers greatly from vomiting after every meal—no derangement of the heart's action, or of the function of the kidneys, can be discovered. There is a copious mucopurulent discharge from the vagina, which is much softened and dilated, and the cervix uteri is in a swollen and abraded condition. Late in the evening involuntary movements of the lower limbs come on, causing great annoyance, and continuing till she goes to bed. Generally she falls into a short sleep, which is, however, soon interrupted, and then the motions recommence and continue for hours till she again falls asleep. On awakening, the choreic movements are again entirely absent till near evening.

"The treatment pursued in this case was the same as that described in the former, only in addition the cervix uteri was twice cauterised with nitrate of silver, with an interval of three days between the operations, and an astringent lotion of decoction of oak bark with borax was injected to the amount of three ounces morning and evening. By these means the leucorrhœa was entirely arrested. For the irritability of stomach a belladonna plaster was applied over the epigastrium, and was followed by great improvement. In about a fortnight the choreic movements disappeared, and my patient left Edinburgh greatly improved in health.

"The state of albuminuria, which has been shown to be intimately connected with some of the most important nervous affections of pregnancy and parturition, did not exist in the two preceding cases. Neither presented any of the signs of disease of the heart, nor had either of them ever suffered from rheumatism. They were both in the better classes of society, and were therefore well fed and cared for, and both were subject only to favorable psychical influences."

ART. 139.—On some Diseases of the Rectum in Women, resulting from certain conditions of the Uterus. By Mr. J. B. BROWN.

(*The Lancet*, Feb. 25, 1854.)

No author appears to have paid special attention to certain exciting or predisposing causes, which induce several of the morbid conditions of the rectum which are met with in females. Mr. Samuel Cooper, Mr. Miller, Drs. Clarke, Blundell, Ramsbotham, Tyler Smith, and others, speak of an impregnated uterus pressing on the bowels as one of the causes of constipation and stricture; but as no one seems to dwell on the fact, that it is not necessary to have an impregnated uterus, inasmuch as the same thing may result from uterine disease. All authors, however, notice that diseases of the rectum are more common in females than in males. Mr. Brown proposed to inquire into the cause of this statistical fact, and said that he should endeavor to show that it is attributable to a uterine origin, and that the female rectum may suffer either from mechanical interference with its functions, from the pressure of an enlarged uterus, or from derangement of the circulation in that organ, inducing a corresponding disturbance in the circulation in the rectum. Frequently, indeed, it cannot be doubted that both of the causes have been in operation in the production of the disease

in the lower bowel. Enlargement of the uterus from any cause—whether the most common and natural one, pregnancy, or from retroversion, hyperphy, inflammation, distension, or imperfect contraction after labor, fibroid, scirrhus tumor, polypus, hydatids, or from any other disease—alike tends to produce the same result in the bowel; and when the subject is fairly considered it will become self-evident that the uterine and intestinal affections are in the cases related to each other, as cause and effect; and that, bearing this in mind, we may in many cases the more surely and quickly apply our remedies, and look with confidence for a favorable issue, whereas if the uterine origin of disease is not suspected, we may treat a woman affected secondarily with constipation, piles, intestinal irritation of a dysenteric character, or other allied disorders by therapeutical agents, directed to the bowel as the primary seat of disease, and yet the patient shall derive no benefit from any of them. If surgeons, indeed, can fail to recollect instances in which this kind of treatment has disappointed them, and I hope to be able to show the reason why it failed. These affections of the rectum may arise, as I am certain they often do, from an enlarged uterus, and that in two ways—firstly, by dragging on the lateral ligaments and elongating them, it falls down under the promontory of the sacrum, and presses on the bowel, interfering with its muscular action, irritates its lining mucous coat, and deranging the circulation in its bloodvessels; secondly, any hyperæmic disturbance in the uterine circulation increases the force of the circulation in the hemorrhoidal vessels by establishing a determination of blood to them. Thus, by reflecting on the anatomy of the parts, it can be easily understood why and how diseases of the rectum, such as hemorrhoids, prolapsus, fissure, stricture, fistula, as well as disordered functions of the bowels, as constipation, dysenteric irritation, &c., do sometimes result directly or indirectly from the mechanical pressure of an enlarged uterus, or simply from the derangement of the hemorrhoidal circulation resulting from uterine disease. It is obvious that in the treatment of these various affections so arising, unless attention of the practitioner is directed to the uterine origin of the disease, no permanent benefit can possibly result. Therefore, when any of these affections occur in females, it is necessary to inquire into the condition of the uterus, which will often at once explain the cause and indicate the treatment. Mr. Brown then proceeds to demonstrate these remarks by cases. He observes that hemorrhoidal veins suffer more from pressure than the arteries, because the coats of a vein are thin, and capable of great distension, and not resilient, whereas the artery is smaller, firm, elastic, but very resilient, and, the ventricle being greater, the circulation of the blood is less liable to interruption. Therefore, as might be expected, the mischief is greater in the veins than in the arteries. Hence we find that the blood often coagulates in the veins, and forms a semi-solid tumor, and the cellular tissue around becomes thickened, and the mucous membrane covering them becomes excessively vascular and sensitive. Mr. Brown observes that he alludes here entirely to internal hemorrhoids. He then relates cases of hemorrhoids, prolapsus ani, fissure of the rectum, constipation, fistula in ano, in all of which the disease had been found to have a uterine origin. The uterus was treated first, and the result was in every instance successful.

ART. 140.—*On a new Pessary.* By Dr. CHURCHILL.

(*Dublin Quarterly Journal of Medicine*, Feb., 1854.)

Dr. Churchill proposes to keep the uterus in position by keeping the posterior wall of the vagina upon the stretch by means of an elongated gutta percha ring, the upper curve of which fits behind the os uteri, and the lower rests upon the upper surface of the anterior edge of the perineum. This elongated ring is curved so as to fit the curve of the posterior wall of the vagina.

ART. 141.—*On the Galvanic Cautery in the treatment of uterine disease.*
By Mr. ELLIS.

(*The Lancet*, Nov. 26, 1853.)

In a paper recently read before the Western Medical and Surgical Society

London, Mr. Ellis begins by stating that, while the older surgeons had considered the actual cautery as a highly valuable remedy in many cases of long-standing disease, the moderns had relinquished it for the more painful and less manageable potential cautery. He remarked that the actual cautery had seldom been applied to the uterus *in situ*, until M. Jobert had recommended it in chronic disease of that organ. He also alluded to the researches of Mr. Marshall, who, in his investigations on *Electric Heat in Surgery*, appears to have been the first who corroborated the views of the ancients respecting the remedial agency of the actual cautery. This gentleman used only a heated wire, which necessarily acted upon a small surface, and was consequently inefficient. The experiments of the author soon led him to adopt a better method, by which he was enabled to concentrate the heat evolved over a considerable surface—an important element in cauterization by electric heat. The instrument he employed was a good-sized silver catheter, straightened out, with the end cut off which formed the body of the instrument. It was then slit open at the upper end and broached, so as to form a socket for the porcelain cauterizer, and also to allow the internal wires to pass out. Within the catheter are placed the two conducting wires, insulated, they being at one end connected with the wires of the battery, and at the other with a piece of platinum wire, which is coiled around the porcelain cauterizer. The battery employed is Groves', of four or five cells, and of these two are required to heat the porcelain to whiteness, which degree of heat is essential. From this simple contrivance the instrument derives its principal value, the heat being thus both intense and permanent. When ready for use it is entirely under the control of the surgeon, a matter of vast importance in its application. The patient to be operated upon should be in the usual obstetric position, and the batteries and wires concealed from her, so that she should not have any idea of the nature of the remedy. A good light and speculum are essential, and the speculum best suited is the common circular glass one, or one of glass coated with gum elastic. Neither the two-bladed metallic nor the conical glass forms are at all suited; the former because it allows all the heat from the blades of the speculum to be concentrated on those portions of the vagina which bulge between them, and the latter because it is liable to be easily expelled by the vagina. A full view of the os and cervix uteri having been obtained, the os should be cleansed with a piece of cotton or wool, and when the cautery has become intensely heated, it should be steadily introduced and quenched in the diseased tissue, the duration of the application and the depth of its introduction depending upon the effect required. The eschars thus produced are marked with a whitish-yellow border, and the cervix often visibly contracts under the application of the cautery. The author insists upon heating the porcelain to whiteness, otherwise slight hemorrhage may occur, from the instrument dragging off a portion of mucous membrane, which invariably adheres to the instrument under such circumstances. The surgeon should also remember that the degree of the eschar is entirely under his control. He also states that the cases in which the cautery is applicable are those of induration of the os and cervix uteri, of ulceration of the os, and in prolapsus uteri, and also in prolapsus of the anterior wall of the vagina.

ART. 143.—*The perchloride of iron employed to arrest consecutive hemorrhages in cancer of the neck of the uterus* By M. REMILLY

(*Bull. de Théor.*, 1854; and *Medical Times and Gazette*, Feb. 25, 1854.)

We have employed, observes M. Remilly, the perchloride of iron to arrest the uterine hemorrhages which so frequently accompany cancer of the neck. It is administered by injections, in the strength of 15 of the perchloride to 250 of water. The dose required is usually 15 grammes of the perchloride (5 drachms English). A woman, æt. 60, suffering from cancer uteri, voided daily large clots of blood from the vagina, some as big as the fist. Two injections (September 12), at the interval of five minutes, sufficed to arrest the hemorrhage for three days. On the 15th, the blood flowed again, when two fresh injections were administered with success. On the 16th and 17th the injections were continued without any recurrence of hemorrhage. On the 18th, the patient, who had lost

no more blood, became pale and faint after the second injection—symptoms which seemed referable to the remedy, as the external organs of generation were temporarily swelled. She soon, however, recovered; and, from October 26th to November 19th, she has remained free from any return of the bleeding.

A second patient, æt. 49, suffering from soft, vascular, fungous growths from the os uteri, accompanied with a discharge of dark, fetid blood from the vagina, was subjected to the same treatment. The first injection produced an immediate disappearance of the discharge. The day following there was a second discharge, which was not arrested by the injection, but the patient declared that the instrument had been badly introduced. The next day the remedy was used with more care, and with complete success.

A third and a fourth case are related by M. Remilly, illustrating the decided benefits ensuing from this plan of treatment; and he remarks, that not only does the injection relieve the patient from troublesome and often offensive discharges, but that it retards the progress of anæmia and prolongs her existence. It is impossible to say what effect the perchloride may have upon the future progress of the cancerous disease; but it may assist, by arresting weakening losses of blood, in rendering more decidedly beneficial tonic and ferruginous remedies, employed so often without the least success in combating cancer and its complications.

ART. 144.—*On the treatment of Ovarian Dropsy by injections of iodine into the cysts.*
By Professor SIMPSON.

(*Edinburgh Monthly Journal*, May, 1854.)

It has been often proposed to treat dropsy of the ovary upon the same principles as hydrocele or dropsy of the tunica vaginalis. In accordance with this view, Drs. Hamilton, Scudamore, and others, have in former times injected ovarian cysts with irritating solutions of sulphate of zinc, &c.; but the results have in general proved so unfortunate and disastrous as to prevent a repetition of the practice.

In 1832, Mr. Martin first recommended the use of tincture of iodine as the surest and safest injection for the cure of hydrocele; and this drug seems now almost universally adopted by surgeons in the obliterative treatment of this variety of local dropsy in the male subject.

Latterly, various surgeons, particularly Velpeau, Boinet, Belluerimi, &c., have extended the practice of iodine injections to the treatment of other local dropsies and cysts; to chronic abscesses; diseases of the joints, &c. And the past experience of surgeons on the subject would certainly seem to show that while the local and direct application of iodine to morbid secreting surfaces has a great power of modifying, altering, and arresting even the secretory action of these surfaces, and often changes suppurative into adhesive inflammation, it shows at the same time wonderfully little aptitude to excite any excess of local irritation and pain. Hence naturally arose the question whether it could be safely and successfully injected into such large cysts as those of the common form of dropsical ovary.

In 1846, Dr. Alison, of Indiana, recorded the history of a chronic case of ovarian dropsy that had been repeatedly tapped, and which he injected at last with a solution of iodine. Severe symptoms followed, but the ultimate result seems to have been favorable. In 1851, Dr. Simpson assisted Mr. Syme in injecting a cyst in the neighborhood of the ovaries, but not a common cystic form ovary. The symptoms which ensued were those of considerable excitement; but the original cyst apparently became obliterated. Another one in its vicinity has lately shown itself in this patient.

Within the last year, Dr. Simpson has subsequently to tapping, injected into dropsical ovarian cysts the tincture of iodine in seven or eight cases. For this purpose he has employed the common tincture of iodine of the Edinburgh Pharmacopœia, undiluted. He has usually thrown into the cyst two or three ounces of the tincture. In some cases he has allowed a portion of the rejected fluid to re-escape; in others, he has retained the whole of it in the sac of the cyst that was tapped. From these cases he drew the following conclusions:—

1. In none of the cases of ovarian dropsy treated with iodine injections after tapping has he yet seen any considerable amount of local pain follow the injection, with one exception; in most instances no pain at all is felt, and in none has constitutional irritation or fever ensued. In the one exceptional case, considerable local irritation followed, and the pulse rose to 110, but the same phenomena occurred in the same patient after previous tapplings without iodine being used.

2. While the practice seems thus so far perfectly safe in itself, it has by no means proved always as successful, as in hydrocele, in preventing a reaccumulation of the dropsical fluid, for in several instances the effusion into the sac seems to have gone on as rapidly as after a simple tapping without iodine injection.

3. But, in two or three of the cases the iodine injection appears to have quite arrested, for the time being, the progress of the disease, and to have produced obliteration of the tapped cyst, as there is no sign whatever of any reaccumulation, though several months have now elapsed since the date of the operation.

Lastly Accumulated experience will be required to point out more precisely the special varieties of ovarian dropsy most likely to benefit from iodine injections, the proper times of operating, the quantities of the tincture to be injected, and other correlative points. Perhaps the want of success in some cases has arisen from an insufficient quantity of iodine being used, and from the whole interior of the cyst not being touched by it. The greatest advantage would of course be expected from it in the rare form of unilocular ovarian cysts. In the common compound cyst, the largest or most preponderating cyst is usually alone opened in paracentesis, and though it were obliterated, it would not necessarily prevent some of the other smaller cysts from afterwards enlarging and developing into the usual aggravated form of the disease.

ART. 145.—*On the excision of Ovarian Tumors.* By Mr. ERICHSEN, Surgeon to University College Hospital.

(*The Lancet*, Dec. 24, 1853.)

After some introductory remarks, Mr. Erichsen relates the case of a lady, æt. 65, and the methods employed to form the diagnosis, and determine the selection of the mode of operation. The room having been warmed to a temperature of 80° the patient was laid on a table of convenient height, covered with doubled blankets, so that the legs hung over the end of it, chloroform administered, and the bladder emptied. (The bowels had been cleaned out by a purge on the preceding day.) The operation was commenced by an incision about five inches in length, made in the linea alba from the umbilicus downwards, the tissues carefully incised, and the peritoneum opened, when the tumor presented itself. Into the part on the left side, that was soft and fluctuating, a large trocar was introduced, and about a gallon of very thick, pasty, dark-colored fluid drawn off. The hand was now introduced into the cavity of the abdomen, and the more solid part of the tumor (which extended high up on the right side, lying against the liver) was drawn down and brought out through the wound. In doing this, a few adhesions that passed between the anterior wall of the abdomen and the tumor, were broken through. The mass, which was of considerable magnitude, was now lifted out of the abdomen (the intestines, being protruded, were passed back with soft warm cloths), and was found to be connected by a broad attachment to the right broad ligament. This pedicle was short, wide, and composed principally of large bloodvessels, with some connecting cellular tissue. It was drawn well forwards. A nœvus needle, armed with strong whip-cord, was passed across it, care being taken to avoid any of the bloodvessels. The peritoneal investment of the pedicle was then dissected off to the extent of about a quarter of an inch in breadth all round, and the whip-cord ligature firmly tied on either side along the line. The tumor was then detached by cutting across the pedicle, half an inch above the ligature. The wound was closed by a series of interrupted sutures, closely applied, and at the lower part by two hare-lip pins, with figure of 8 sutures, round these the ligatures of the pedicle were firmly twisted, so that the cut stump projected out of the abdomen between the lowest pin and

the inferior angle of the wound. The abdomen was then supported with cross strips of plaster and a bandage.

Mr. Erichsen then describes the after-treatment adopted. The patient left the bed on the 16th day. He considered that the case illustrated well the surgical management to be adopted. The principal points in the operative procedure, that in his opinion required attention, are to regulate the length of the incision to the size and character of the tumor. The more fluid the tumor, the less extended need the incision be. As the solid part of the mass must necessarily be extracted entire, an incision for that purpose must be proportioned to its magnitude and shape, and the surgeon should not advocate either the small or large incision exclusively. The ligature of the pedicle is an important point, for unless this be properly practised there will be no inconsiderable risk of the supervention of secondary hemorrhage. It is best done by transfixing with a *nævus*-needle, carrying a whip-cord ligature, and tying on each side as tightly as possible. The dissecting downwards of that portion of peritoneal investment of the pedicle, across which the ligature is tied, appears to be of much importance in preventing the constriction and sloughing of the otherwise included line of serous membrane, and thus lessening the dangers of peritonitis. It is a part of the operation, however, attended by some risk, by the chance of wounding the blood-vessels, which are here thin-walled and large, that they may be avoided by careful manipulation. After tying the pedicle, it is of considerable moment that the ligatures should not lie in the peritoneal cavity, and that the stump should not slough off within the cavity of this membrane, as under each circumstance, peritonitis of a severe or fatal character would probably ensue. All this is best avoided by drawing the pedicle well forward, so as to project above the wound, and attaching the ligature to the harelip-pins, with which the lower line of the incision is closed. The after-treatment consists in keeping the patient in a warm room, giving a liberal supply of ice, with opiates to tranquillize the system, and arrest peristaltic action; to draw off the urine, and not to attempt to relieve the bowels, which may be left confined for many days without inconvenience to the patient. In considering the subject of ovariectomy, two questions present themselves,—first, as to whether the operation is a sound one, and ought to be retained in practice; and, secondly, if retained, in what class of cases it should be had recourse to. In answer to the first question, the course taken by ovarian tumors varies greatly. In some instances these growths do not appear to be incompatible with prolonged existence and a fair share of health, in other instances again, after remaining quiescent for some length of time, they assume considerable activity of development, and interfere so seriously with the other abdominal organs, and with the general operations of the economy, that life is attended by great misery and discomfort; and in a third class of cases they rapidly and steadily run their course to an unfavorable termination. After a time, in the majority of instances, the tumor may be materially lessened in bulk by tapping; but when once this operation has been performed, it will require to be repeated with increased frequency, the intervals between each succeeding tapping being diminished, and then a fatal termination at a comparatively early date may be looked for. Mr. S. Lee states, that of 46 patients who were tapped, 37 died, and only 9 recovered, and that of the 37 who died, more than one half did so in four months from the first tapping: 27 out of 37 in the first twelve months, and of these 18 were only tapped once. The objection had been raised against ovariectomy that the mortality from it was so high as not to justify a surgeon in performing it. Undoubtedly a very high rate of mortality after an operation would constitute a very serious bar to its performance, and the more so if it could be shown that the disease for which it was practised was not necessarily fatal, or even a very serious one. Thus Mr. Philips had collected the particulars of 61 cases in which ovarian tumors were extracted; of these 35 were successful, and 26 died. Mr. Lee gave 90 cases; of these 57 recovered, and 33 died; and Dr. Robert Lee, the most recent writer on the subject, had collected 102 cases of ovarian extraction, of which 60 did well, and 42 terminated fatally. From these statistics it would appear, that the mortality after the removal of ovarian tumors amounted to rather more than one in every three cases. This appeared to Mr. Erichsen not to be excessive, when compared with the result of operations, vari-

ous severe surgical injuries, or scrofulous diseases. In the next place, ought ovariectomy to be performed in all cases, or even in the majority of instances of ovarian disease? or ought it to be limited to a few and exceptional cases, and practised as a last resource? The most ardent advocate for this operation would scarcely, he thought, advise that an attempt should be made to extract the ovum from every woman laboring under tumor of this structure, but would rather recommend the employment of palliative treatment until the growth had begun to interfere seriously with the comfort of existence, or with the healthy action of the abdominal organs, the patient wasting, suffering much discomfort from her size, with difficulty in breathing, repeated vomiting, gastric irritation, &c. He confessed he saw no chance of giving relief or of prolonging her existence except by the removal of the tumor; medical treatment was of no avail in those cases, and tapping only gave temporary relief, therefore one must either leave the patient to her fate, or have recourse to the ablation of the tumor, which, it had already been shown, might be done with the prospect of success in nearly two cases out of every three. The question of diagnosis had to be considered in two of its bearings:—first, as to the existence of such adhesions between the enlarged ovum and the other abdominal organs as to render the extraction impossible; and, secondly, the diagnosis between ovarian and other abdominal tumors. Such adhesions as would prevent extraction having been met with in rather more than one-third of the whole number of cases operated on,—according to Dr Lee, in 50 out of 162 cases,—the diagnosis of this complication was of extreme importance. Its existence might in general be suspected when it was ascertained that the patient had been the subject of attacks of peritonitis; when the abdominal tumor did not appear to change its position on the patient taking a deep inspiration and then expiring freely; and when, on the patient raising herself into a sitting posture, the sac did not tend to move forwards into the space between the recti muscles. So also much light might be thrown upon this important point by ascertaining the existence of a crepitant or crackling sensation between the anterior abdominal wall and the tumor, and more particularly when the tumor was tapped, drew down with it the abdominal parietes, or sunk into the pelvis without exercising any traction on those parts. The conditions also of the pelvic viscera, viz., the bladder and uterus, as ascertained by examination with the sound, might tend to show whether connection existed in this quarter or not. But in other instances, and more particularly when the mass is bound down posteriorly, there was no probability of determining this point, and then the surgeon might, to his great annoyance, find that after laying open the abdomen the operation could not be completed, and the tumor require to be left. In those cases in which there was any reason to suspect the presence of adhesions, it was a wise precaution to make a small exploratory incision into the abdomen, through which the fingers or the hand might be introduced, and the connections of the tumor examined. If these were too extensive to admit of removal, the aperture might be closed, and possibly the part might escape without any very serious consequences ensuing, as in these cases the peritoneum had in great measure lost its character as a serous membrane, and was not susceptible of the diffuse and destructive forms of inflammation that would otherwise be likely to occur in it.

ART. 146.—*History and description of the first known case of Pelvis with so-called "Dislocation of the last Lumbar Vertebra forwards."* By Dr. SPAETH, Assistant in the Obstetric Clinique at Vienna.

(*Zeitsch. des G. d. Aerzte zu Wien*, 1 H. 1853; and *Medico-Chir. Rev.* April, 1854.)

Dr Joseph Spaeth, assistant in the Obstetric Clinique at Vienna, refers to the example of this obstructive deformity of the pelvis recorded by Kiwisch in 1850, and to that of Kilian in 1853. The present case occurred in 1836. The patient was twenty-nine years old, of middle stature, well nourished, with neck, bust, and limbs well developed. The body in walking was perceptibly bent backwards—the lumbar vertebral column usually concave; the abdomen hanging forwards. On examination at the commencement of labor, the head of the child was found directed towards the left hip. The os uteri could only, with the greatest

difficulty, be reached by the point of the finger. "*The last lumbar vertebra was felt projecting considerably forwards.*" The labor-pains became irregular and painful, after forty-eight hours the labor had scarcely advanced; the os uteri was swollen and not open, and the head could hardly be reached. Impending or actual rupture was dreaded, and the child appearing to be dead, perforation was resorted to. On the following day strong pains came on, and the delivery took place. The after-birth came away spontaneously. The uterus contracted. Not much blood was lost. The patient sank on the 3d of March, of metropéritonitis. The pelvis was preserved by Professor Rokitansky in the anatomical museum of the General Hospital in Vienna; it is marked 1715 and 5203. The greatest deformity in the pelvis consists in the remarkable relation of the last lumbar vertebra to the sacrum, projecting forwards, occupying the place of the promontory, and shortening the conjugate diameter of the brim. Through the projection of the last lumbar vertebra, there results a double twist of the vertebral canal, and a considerable narrowing at the points of bending. The conjugate diameter of the inlet in the dried pelvis is 9" 5', that of the transverse 4" 9". Dr. Spaeth agrees with the view taken by Kiwisch as to the origin of this condition, that it is congenital, since he could find no evidence of injury of the joint concerned. He refers also to the remark of Kiwisch, that "although no other case of this deformity be yet known, yet it cannot be doubted that analogous examples will soon be brought forward."

ART. 147.—*Case of irreducible retroversion of the Uterus rendered fatal by pregnancy.*
By Mr. J. B. BROWN, Obstetric Surgeon to St. Mary's Hospital.

(*The Lancet*, Feb. 5, 1854.)

This case was read before the Royal Medical and Chirurgical Society.

CASE.—The patient was a young woman, æt. 20, of delicate appearance, who first suffered from prolapsus uteri, brought on by lifting a heavy weight, but which was relieved by a bandage, and from which she appeared to suffer no inconvenience. She became pregnant, and, increasing in size, she first sought medical relief from the difficulty she experienced in emptying the bladder, and then only by great straining, passing but small quantities, suffering, however, in the interim, from incontinence of urine. She was admitted into St. Mary's Hospital, and on examination the anus was found to be very open and the rectum protruding, as in a bad case of prolapsus ani; the perinæum distended and tense, and the labia partly open, through which an oviform body was discernible. On passing the finger within the labia, a large tumor was felt behind the posterior wall of the vagina, and on exploration by the rectum, the tumor was felt anterior to it. The whole pelvic cavity was filled with the tumor. The bladder being first emptied, two fingers of the right hand were passed under the arch of the pubis to the brim of the pelvis, and then the os uteri was felt pressing the neck of the bladder firmly against the pubis, the posterior lip of the os being in this case inferior. The movements of the fetus were distinctly felt. The urgency of the symptoms which rapidly followed her admission into the hospital precluded all hope from surgical interference. Vomiting of a dark grumous matter came on; she rapidly sank, and died the third day after admission. On a *post-mortem* examination, the peritoneal surfaces indicated considerable inflammatory action; the bladder was much dilated and flattened, adherent anteriorly to the abdominal walls, and contained some fetid ammoniacal urine; the mucous membrane appeared disorganized. The intestines being removed, the uterus was found occupying the pelvic cavity, to which it was completely moulded in its retroverted condition, with its fundus pressing against the posterior wall of the vagina and sacrum, and the os, high up behind the arch of the pubis, in firm contact with the neck of the bladder. A fetus of five months, with breech presentation, was found within the cavity of the uterus. The author concluded the paper with some practical observations on the treatment of such cases.

ART. 148.—Two cases of Uterine Catheterism which were followed by death.

By (1) M —; and (2) M. BROCCA.

(1) *Archiv. Gén. de Méd.*, March, 1854; and (2) *Gaz. des Hôpitaux*, Feb. 4, 1854.)

The first of these cases was brought before the Parisian Academy of Medicine by M. Cruveilhier, who had been consulted concerning it after the mischief had been done.

M —'s case—The patient, a lady, æt. 24, and married five years greatly concerned at having no family, consulted a gentleman who told her that the reason of her barrenness was anteflexion of the womb, and who afterwards proceeded to rectify this condition by means of the uterine sound. Severe pain followed the first, and every subsequent introduction of the instrument, and this pain, and the nausea and tympanitis which attended upon it, rendered it impossible to wear this instrument longer than a few hours. She was then removed to Paris, and subjected to the same treatment, under very able hands, but with the same results. She remained in Paris a month. Five weeks after her return to the country, she was seen by M. Cruveilhier. He found the uterus anteverted, enlarged, inflamed, and excessively sensitive to the touch. He also found the patient extremely prostrated, and suffering from continual vomitings of greenish matter but without any signs of general peritonitis. The patient sank eight days afterwards.

2. M. Broca's Case.—A woman, æt. 39, was admitted into the Hospital of Lourcine complaining of severe hypogastric pains extending down the thighs, of disturbance of digestion, loss of appetite, colic, constipation, and frequent emission of urine. Examination per vaginam, both by the finger and the speculum, confirmed the diagnosis of anteversion of the uterus, the os being directed nearly directly backwards, the body being horizontal. Upon October 7, the uterine sound was introduced, the patient standing upright, the instrument penetrated the organ, directed by the index finger, two and a half inches. The uterus was easily replaced, and held in its proper position for five minutes. **There was no pain given to the patient.** The day following the same course was pursued. On the 10th, the catheter was introduced for the third time, the woman declaring that she felt much relieved by the operation. On the 11th, the introduction of the instrument caused slight pain: on the 12th the abdomen became painful upon pressure; fever ensued with nausea. Ordered that thirty leeches should be applied to the hypogastrium. On the following day the leeches were repeated with good effect. Mercurial frictions were then directed to be applied to the abdomen. During the day a small quantity of blood flowed from the vagina. On the 15th the fever had disappeared, and the sickness had been partially calmed; but there was one region of the abdomen, situated over the right ovary, always painful upon pressure.

Although the abdominal pains had disappeared entirely by the 17th, yet the stomach rejected every kind of food or medicine, the bowels were constipated, and the patient became rapidly emaciated. On the 22d she had stercoraceous vomiting, and on the 23d she died, after severe suffering. The examination of the body, by M. Broca, exhibited traces of two attacks of peritonitis; one of old date, the other recent, and excited, in all probability, by the catheterisms practiced upon the uterus fifteen days before. The inflammation had commenced at the right angle of the uterus, but, although the peritonitis had yielded to active treatment, adhesions remained which arrested the course of the fecal matter, and gave rise to the symptoms which immediately preceded death. The mucous membrane of the uterus was found uninjured.

ART. 149.—Extirpation of the Uterus and Ovaries. By Dr. BURNHAM, Professor of Surgery in Worcester Medical College, U. S.

(American Lancet; and Dublin Medical Press, March 8, 1854.)

Notwithstanding the favorable termination of this case, Dr. Burnham says that he would not easily be induced to repeat this operation, or to remove the uterus under any circumstances; and yet he has had considerable and success-

ful experience in gastrotomy, for he has excised six ovarian tumors, and five of the operations have been successful. The tumor in this case weighed eight pounds.

CASE—Miss —, æt 42, had a tumor in the left iliac fossa, which had gradually been increasing for the past six years. After two years existing in this situation, it occupied a more central position, and seemed to be bilobed, although for a long time the pain and uneasiness were confined to the left iliac fossa. For five years after the discovery of the tumor, the patient experienced but little inconvenience, and consequently resorted to no regular course of treatment. But during the last year the tumor increased rapidly, and at intervals was attended with very severe pain and nervous irritability. The paroxysms of pain increased in severity and duration, until there was but slight intermission; indeed, it could not be said that she was at any time free from pain. Her strength also had failed, and there was much functional derangement of the pelvic viscera, owing to the pressure of the tumor upon the different organs.

I first saw her in May, 1853, and after a careful examination of the case, and obtaining from her the best history I could of its progress, I informed her that she could not be cured by any remedial plan of treatment, and that nothing short of the removal of the tumor could in any way be expected to benefit her, and even this course could not be adopted without placing her life in imminent danger. I recommended her to seek other professional advice, and also to consult her friends as to the propriety of running so great a risk. She called on me again about the 15th of June, and informed me of her determination to submit to the operation, which was performed on the 25th of July.

The tumor was quite movable, extending three inches above the umbilicus, and occupying mainly the left side, though it could be pushed to the opposite side without difficulty or pain. I could detect its division into three lobes, or that there were two distinct appendages to the main tumor, movable to a certain extent, and independent of it, but such was the form of the tumor, and the thickness of the abdominal parietes, that I could not possibly determine the exact relations they held towards each other. But from the fact that the tumor first appeared in the iliac fossa, and that the body of the tumor still maintained its position on the left side, I came to the conclusion that it was merely disease of the left ovary; but in this I was mistaken, as were several other professional friends who were with me, as also those who had examined the case in its earlier stages.

I was assisted in the operation by my brother, Dr Z. P. Burnham, Dr F. G. Kittredge of Lowell, and Dr S. C. Ames of Boston. There were also present a large number of medical gentlemen. The patient was placed on the table, and immediately brought under the influence of chloroform, by Dr S. C. Ames. I now made the first incision through the linea alba down to the peritoneum, from the umbilicus to the pubis. There was slight hemorrhage from the superficial vessels, which occasioned the delay of a few moments, but this was speedily checked by the cold wet sponge. The peritoneum was next pinched up with the forceps, and a small slit made so as to admit the director, upon which a straight-pointed bistoury was introduced, and the peritoneum divided, first upwards, and then downwards, to the full extent of the external incision. I was now enabled to determine the nature and extent of the tumor, and found that its principal portion was attached by a small neck, about one inch in diameter, to the fundus of the uterus, instead of being an enlargement of the ovary, as I had supposed; and also that the uterus itself was implicated in the disease, occupying and filling the pelvis literally full. I also ascertained that the left ovary was enlarged to the size of a man's fist, and of the same fibrous structure. To the right ovary was attached a cyst, containing about six ounces of a dark sero-albuminous fluid. The upper and main body of the tumor was of a size that it could not be turned out of the abdomen without enlarging the incision through the integuments, I therefore prolonged it to the left of the umbilicus upwards two inches. I could now by a little effort press the upper portion of the tumor outward, so as to admit of a free examination, when I perceived that the bloodvessels entering it were of very large size, and to guard against hemorrhage (as it was necessary to remove this portion before I could

operate on the remainder) I passed a double ligature around the neck of the tumor, and as close as possible to the fundus uteri, and cut this portion of the tumor above the ligature. It was now deemed proper to remove that portion which involved the ovarium, in order to have room to dissect around the neck of the uterus, without danger of fatal hemorrhage. I therefore carefully dissected the left ovarian tumor, which was principally attached to the broad ligament of the uterus; the spermatic arteries were ligated previous to its removal. The next step was to lessen the size of the right ovarian tumor, and this was done by a free incision into the sac, and absorbing with a sponge the fluid it contained. I had now but the uterus in its enlarged condition to contend with, but so completely was it impacted in the pelvis that it was with the utmost difficulty its position could be altered to permit the completion of the operation. With great caution I at length removed all the attachments down to the cervix uteri, and this part not appearing to be in the disease, was divided at the point where the vagina is reflected upon it.

Two arteries (the uterine) only required ligatures. The right ovarian sac being removed, the parts were carefully washed and returned to their natural position in the abdominal cavity, the edges of the wound brought together and retained by four sutures and adhesive straps, which were carried quite across the abdomen, to afford adequate support to the muscles. A compress of soft linen and a bandage completed the dressings. The patient was placed in bed, and as soon as she had recovered from the effects of the chloroform, I gave her morph. gr. $\frac{1}{2}$, ipecac. gr. i., gum acac. gr. iv.; and directed this to be repeated every four hours.

June 26th.—Patient slept about half of the night; no pain in the abdomen; considerable thirst, which seemed to be the result of inhaling the chloroform from its effects on the mucous membrane of the mouth and air-passages.

27th.—Little change in the symptoms; pulse slightly increased in frequency; thirst; no pain or soreness; rested well all night; treatment continued.

28th.—Pulse 108; general increase of heat of the surface; some uneasiness of the bowels. Ordered an enema of infusion of senna, which produced two free evacuations; continue the anodyne.

29th.—Restless night: copious discharge of dark offensive matter from the wound and vagina; tenderness over the whole abdomen; pulse 150; tongue coated with a brown fur; skin dry and hot; excessive thirst; constant desire to change her position; abdomen distended with gas. To have an enema of senna and thoroughwort, with twenty drops of tincture of opium; this produced a free evacuation of offensive fecal matter, but it did not remove the flatulency. The anodyne to be given every two hours, and equal parts of spirits and water to be applied to the abdomen.

30th.—No material change in the symptoms; night restless. Medicines continued, with the addition of two grains of scutellin to each powder. Quiet sleep followed.

July 1st.—Patient much worse; pulse 140; restless; constant vomiting and hiccough; bowels distended so as to tear open the adhesions which had been firm for three days; suppuration abundant and offensive from the wound and vagina. Ordered an injection of senna, ginger, and forty drops of laudanum. Free evacuation, though no subsidence of the distension; alcohol applied to the abdomen, and the incision protected by adhesive plaster. The anodyne to be taken every four hours, adding to it three grains of cyripedin.

2d.—Still worse; pulse intermittent; vomiting every fifteen minutes; cadaverous expression of countenance, and all the symptoms indicate rapid dissolution. Warm brandy-and-water, with charcoal, to be taken every ten minutes; continue the anodyne, and a fermenting poultice to be applied over the whole abdomen.

3d.—Has passed a bad night; much exhaustion; pulse 110 and regular; not quite so much distension of abdomen. Ordered two grains of podophylin and ten of compound rhubarb powder in a little brandy, to be repeated in two hours, and followed by an injection of warm ginger. After the second powder and injection, the patient had a copious evacuation of dark impacted scybala, which must have remained in the intestinal canal for many days, notwithstanding there had been what seemed to be free evacuations from the entire extent of the

canal several times since the operation. Much prostration attended the evacuations, but the patient was kept from sinking by the free use of stimulants; and as soon as the operation was over complete reaction and cessation of the vomiting ensued; the gas passed off, the abdomen became reduced to its natural size, the pain at once subsided, and a general improvement in all the symptoms became evident.

4th.—Improving; slept well; pulse 104, regular and full; copious discharge of a dark-colored offensive pus; all the ligatures but one have become detached; no pain, and but little soreness to the touch. Ordered a generous diet, with an infusion of cinchona, and Dover's powder at night.

5th.—Continues well; quinia in four-grain doses every hour in place of the cinchona, and the free use of brandy.

6th.—Improving in every respect, except in the amount and quality of the secretion, which discharges abundantly from the wound and vagina, and corroding the skin wherever it came in contact with it. The parts to be well washed with chloride of soda; a liberal diet of animal food.

7th.—Rapidly improving; pulse 96; remaining ligature detached; removed an offensive slough from the omentum. Treatment continued.

8th.—Pulse 100, sharp and small; mouth covered with aphthæ, and the skin with petechiæ; sharp darting or prickling pains over the abdomen; diarrhœa and great prostration; edges of the wound are flabby and of a pale color. Ordered quinia xij., morphia grs. ij., to be divided into eight powders, one to be taken every four hours; and the mouth washed with nit. argent. gr. ij., tinct. myrrh. 3j., aq. rosæ 3ij.

9th.—Little alteration in the symptoms; bowels have moved freely. Treatment continued, with the addition of subborate of soda for the mouth.

10th.—Improving; mouth is cleansing; petechiæ disappearing from the surface; pulse 92; appetite improving; edges of the wound assume their natural color and elasticity; suppuration diminished in quantity, and of a healthy character. Continue treatment, but the anodyne and tonic powders to be taken only once in eight hours.

12th.—Rapid amelioration in all the symptoms; no discharge of pus from the vagina, and but little from the wound.

15th.—Mouth cured; patient turns in bed without pain; wound nearly healed; bowels regular; appetite good. Continue the quinia, but omit the other remedies.

20th.—Sits up one hour at a time twice a day, and gets up without assistance. Discontinue medicine.

30th.—Wound completely closed; no discharge from vagina; general health good; has taken no medicines for the last ten days; is gaining strength rapidly, and may now be considered out of danger.

ART. 150.—*Case of Vesico-Vaginal Fistula, in which the Os Uteri passed through the opening into the Bladder and became adherent in that position.* By Dr. MARION SIMS, of New York.

(*American Medical Monthly*, Feb., 1854.)

This case, in all probability, is the only one of the kind on record.

CASE.—Mrs. K., æt. 43, tall and stout, the mother of five children, had been subject to vesico-vaginal fistula since August, 1842. The fistula had resulted from the injuries she had sustained in a very severe labor. There had been retention of urine all this time, and at the time of the menstrual periods much clotted blood had always passed away along with the urine.

On examination the uterus was found to be retroverted, with its fundus fixed almost immediately under the promontory of the sacrum, and its neck and mouth tilted forwards and passed through a fistulous opening into the bladder. The fistula was partly plugged in this manner, the plugging being rendered more perfect by strong adhesions between its edges and the side of the os and cervix uteri; but it continued open at its inferior extremity, and allowed the urine to escape in considerable quantities. The vagina was short, but otherwise capacious.

In treating this case, Dr. Sims attempted first to restore the uterus to its normal position, and afterwards to close the fistula; but he was obliged to abandon this project in consequence of the great suffering it occasioned, and to content himself with closing the fistula without disturbing the position of the uterus. He succeeded in doing this on a second attempt. This was on the 5th of December, 1852.

Now, he tells us, the menses pass off at the regular times mingled with the urine, and without any suffering; the escape of urine by the vagina being completely cured.

ART. 151.—*Two extraordinary cases of Impalement per Vaginam, and recovery.* By (1) Dr. BRYAN, of Aberdeen, Mississippi, and (2) Dr. SARGENT, of Worcester, (U. S.)

(*American Quarterly Journal of Medicine*, Oct., 1853)

These cases are remarkable in themselves, but they are chiefly interesting as exemplifying the operation of the *vis medicatrix naturæ*.

"1 *Dr. Bryan's case.*—During my residence in Amherst County, Va., in 1850, I was called, on the 25th of April, at about 3 p.m., to see Phoebe, a slave, æt 25, black, smooth skin, small stature, and the mother of three healthy children.

"On arrival, I learned that, at about 2 p.m., she had leaped from the height of ten feet, and alighted upon a tobacco-stick, which had been driven firmly in the ground and was concealed by some loose fodder (The stick was four and a half feet long, and one inch square.) The vagina was entered without doing much injury to the vulva, the stick passed up the canal, and perforated its walls on the right side of the os uteri, entered the cavity of the abdomen, and passed in an oblique direction upwards, and finally lodged against the twelfth and eleventh ribs of the right side.

"4 p.m.—Hemorrhage quite subsided, but at the time of accident it was very profuse from vagina; pulse 120, and very small; extremities cold, countenance anxious, pain in abdomen distressing; nausea and frequent vomiting; mind clear.

"Tincture of opium, ʒj, brandy ʒij, to be given at once, and repeated every hour or two until reaction or relief was obtained; warm applications to the extremities, and a poultice to the entire abdomen.

"26th.—Slept during the latter part of last night, and has been sleeping occasionally during the morning, but is not altogether free from pain. Reaction took place about 12 o'clock last night; pulse now 110, quick and hard; abdomen much swollen, hard, and tender to the touch; complains a good deal of the side, about the point where the stick lodged, and the lower region of the liver. The swelling and contusion externally are considerable, and she cannot bear the part to be handled; vulva very much inflamed; passes water with much pain and difficulty.

"Ten grains of Dover's powder to be given at bedtime, and to be repeated during the night if necessary; effervescing draught every two hours; poultices to be continued.

"27.—Rested pretty well last night; pulse 112, hard, skin dry; abdomen very much distended and painful to touch; eyes very red; has vomited some bilious matter; passes her water still with difficulty; bowels have not been moved since the accident. Six grains of calomel and ten of rhubarb; to be given at once, and followed by an enema of soap and water in six or eight hours, if no action is had by this time; anodynes and poultices continued; vulva to be frequently cleansed with Castile soap and warm water.

"28th.—Pulse 100 and softer; several bilious discharges; some discharge of pus from vagina; no other maternal change. A pill of 2 grs. of blue pill and 1 grain of Dover's powder, to be given every six hours; and the effervescing draught and poultices to be continued.

"29th.—Abdomen enormously distended, dull on percussion and painful on pressure; bowels moved twice, discharges of bilious character; pulse 118, small

and quick; rested badly last night; skin dry, tongue coated over with a brown fur. Treatment as before.

"30th, 10 A.M.—Had, about 2 o'clock last night, a copious discharge of grumous blood from the bowels, which discharge continued to occur every hour or two until 9 A.M. this morning; could not ascertain the exact quantity, nurse supposed it to be from seven to eight quarts; this is no doubt a too liberal estimate. Abdomen has gone down very much; pulse 130, small and feeble; skin dry and cool; she seems quite exhausted; vaginal discharge continues. Ordered half a grain of sulphate of morphia at once, with infusion of serpentaria \mathfrak{z} j, at intervals of two hours. Continue pills and poultices, but discontinue draught.

"May 1st.—Abdomen much flattened; two bilious discharges yesterday free from blood; pulse 112, small and soft; vaginal discharge more profuse; passes her water freely; skin dry; has some appetite. Continue as before.

"4th.—Has done well since last visit, until last night. Nurse thinks she was alarmed by a conversation which took place in the room upon the subject of death and her probable recovery. After an hour or two she was better, and again expressed her belief that she would get well, never before having any doubt about her recovery. Bowels have been moved once this morning; biliary secretions improved; skin continues dry; pulse 108; appetite better. Continue treatment; is allowed a more nutritious diet.

"6th, 10 A.M.—Pulse 108, soft; skin moist; bowels in good condition; appetite good; vaginal discharge diminishing; complains of little else than soreness in the right side.

"Ordered tonics and better diet; mercury discontinued; no appearance whatever of its constitutional effects.

"8th, 12 A.M.—Convalescing. Continue tonics.

"11th, 11 A.M.—Convalescing rapidly.

"Recovered fully by the middle of June following."

In answer to some queries put to him by Dr. Meigs, of Philadelphia, to whom this case was communicated, Dr. Bryant states further—

"I will now state from memory the account given to me by the patient at the time of my first visit, and which was frequently reiterated by her to me afterwards. She said that, on jumping on what she supposed to be loose fodder, she thought her belly was torn open, but found that she was hanging upon something, which had entered her body, and was resting upon her ribs at the right side. She felt it distinctly with her hand, and in trying to extricate it everything turned black; and when she came to herself, she was still lying in the same position. Being alone, she had great difficulty in extricating herself, and when she did, a gush of blood followed immediately.

"On first hearing this accident, I doubted the possibility of the extent of the penetration, but I had the stick brought to me, and on critical inspection I was satisfied that it had entered her body $11\frac{1}{2}$ or 12 inches. It was thickly besmeared with bloody mucus to this extent. *I am quite clear the stick was not stained by the fluid running down upon it.*"

"2.—*Dr. Sargent's Case.*—This case occurred nearly two years ago. A lady, of about 37 years of age, who had borne several children, the last about three years previous to the injury about to be mentioned, and whose last menstrual period had been about a week before, her bowels also being in good lax condition, in sliding down from a hayloft, impaled herself upon the handle of a pitchfork, which passed in at her vagina to the length of twenty-two inches, when her feet struck the ground. The handle was immediately withdrawn, the patient carried into the house, and Dr. S. sent for. He found the patient, half an hour after the injury, lying on her back, with the thighs flexed, and the skin cool, pale, and moist (as if from fright), and the pulse not much accelerated. There was no external injury, and no physical evidence of effusion into abdomen or thorax, and no urine nor feces on the garments, nor about the person, nor on the field of the accident, nor on the handle of the fork. There was some blood flowing from vagina. Patient passed water during the visit, and it was not stained with blood. She complained most of pain in the left thorax, on a line

with the scapula. Dr. S. saw the handle of the fork, which was rounded, a little larger at the end than elsewhere, perfectly smooth, two inches in diameter, and showed distinctly the stain of blood up to an abrupt line, twenty-two inches from the end.

"The instrument, in Dr. S.'s opinion, must have perforated the vagina at its upper part to the left, and gone between the uterus and rectum. If it had gone to the right, it would have perforated the cæcum. The form of the instrument would make it much easier for it to pass between than to perforate organs, and Dr. S. supposed that it passed in front of the kidney, behind the spleen, and between the diaphragm and false ribs, peeling up the costal pleura till it reached the scaleni muscles. The subsequent history of the case, which showed a fracture of the first rib, while, also, there was at no time any effusion into the chest, proved this diagnosis correct. Supposing that the greatest safety of the patient was in what might be called *forced rest*, Dr. S. gave her one grain of morphia (by estimate), and bound her chest firmly with a broad bandage of new flannel, placing a towel, wet in cold water, between this and the skin. The morphia was repeated in an hour, and one-third of a grain three hours after. Patient passed water repeatedly in first twenty-four hours, without trouble and without blood, and passed coagula from the vagina. The day following, there was emphysema above left clavicle; and, the day following, crepitus in left axilla high up, as if from fracture of bone. There was at no time any evidence of pneumonia or pleurisy, though there was deficiency of respiratory murmur in left chest from the pain in its expansion, the percussion remaining good.

"The pulse stood at 120 for several days, and the opiates were continued about as long.

"The injury was inflicted the 7th of August, 1851, and Dr. S. was in daily attendance for nine days; and, occasionally, afterwards, for three weeks. The recovery was entirely favorable, the patient being left only with an ill-united fracture of the first rib, over which there was some painful swelling for several weeks, which ultimately subsided, leaving an osseous prominence in the supra-clavicular region, in intimate relations with the scaleni muscles."

(B) CONCERNING THE DISEASES OF CHILDREN.

ART 152 — *Importance of attending to the condition of the Anterior Fontanelle in the treatment of Infants.* By Mr. HILTON. Surgeon to Guy's Hospital.

(*Guy's Hospital Reports*, vol. viii. part ii.)

The following very important remarks occur in some very valuable "*Lectures on the Cranium*," to which we shall have to direct more special attention in our report on physiology.

"If properly interpreted," writes Mr. Hilton, "the condition of the anterior fontanelle often forms an indication of great practical value in the treatment of infants. When the arterial circulation is in a natural state of vigor and activity, the anterior fontanelle is observed on a level with the surrounding parts. If, from some cause, the circulation be unduly excited, it is raised or rendered more tense or prominent, but if, on the contrary, the circulation be enfeebled, it is lowered or depressed below the contiguous structures. I know, in fact, of no sign that so clearly and correctly estimates the state of the vital powers of the infant as this easily recognizable condition of the anterior fontanelle. If, on a tactile examination, it be found considerably depressed, it forms one of the strongest marked indications that can be encountered of feebleness and debility, for, it is an evidence of the power at the centre of the circulation being inadequate to the supply of the cranial contents with their normal quantity of blood." (P. 373.)

ART. 153.—On some points in the pathology of Rheumatism in Children.
By Dr. WILLSHIRE.

(*The Lancet*, Feb. 4, 1854.)

In a paper recently read before the Medical Society of London, the author commences by stating that ample clinical observation had now proved, that the diathetic malady, called rheumatism, was met with in infants and children, both in its muscular and capsulo-articular varieties. This had been shown, however, by the practical Heberden nearly eighty years before, who had witnessed rheumatic diseases in a patient four years of age. In modern times much difference of opinion had been expressed as to the relative frequency of this affection in early life, both in respect to the diseases and more advanced years. The author did not think that as yet we had amassed sufficient data for the establishment of any law upon the points in question, or that the results of the reports of the Registrar-General could do more than offer the most distant approximation to its fatality. It would be at once evident, for instance, that some persons would return cases under certificates of diseases of joints, &c., which others would have placed down to arthritis, rheumatism, and rheumatic fever. The author coincided with the views generally held with respect to the connection of rheumatism with abnormal states of the joints and heart, and with scarlatina, but he could not avoid thinking that it had occasionally happened that inflammation and supuration within or around joints have been regarded as rheumatic when pyemia, purulent affection, phlebitis, umbilical or otherwise, should have been referred to for their solution. Cases illustrative of this position were then referred to, as also the views of Betz, of Heilbronn, which relate to the question of the identity of rheumatism and scarlatina. The connection of arthritis with variola was then commented on, as also with disease of the central organ of the circulation. Leaving this division of the subject, the relations of rheumatism with chorea, contraction and essential paralysis were canvassed, as also those with eclampsia, spinal, and certain forms of cerebral meningitis, and with pleurisy. The judgment arrived at was, that however possible such relations were with all, and probable with some, yet with but one exception perhaps (to be afterwards dwelt upon) they had not been proven in the case of any, not even as respected chorea. It was admitted, however, that the pathologist engaged in studying disease in children and youth made no more hazardous an assertion in affirming the rheumatic nature of the above morbid conditions, unconnected with the typical signs of the diathetic disorder, than the pathologist of more advanced life did when he asserted that rheumatic fever might occur "without from first to last the slightest concurrent local inflammation, whether of the joints, or of the heart, or any other organ." The question would arise in both instances—How then is the rheumatic essence predicted of either? The connection of rheumatism with secondary affection of the brain was then discussed with some detail, as this was a point sought to be mainly illustrated by the author's communication to the Society. Some denied the connection, others maintained it; evidently, however, more from theory than direct observation. At one period it was believed that the cerebral symptoms which arose in the course of the diathetic disorder were always due to cerebral lesions; but soon a reaction took place, and it was affirmed that they were mostly, if not always, dependent upon lesion of the cardiac organ, the brain itself being only functionally interfered with, as it were, in a reflex manner. More lately still it was sought to be established that both heart and brain might be eliminated from the process, and the encephalic symptoms referred to a "distempered condition of the blood" as the proximate cause of their supervention. Dr. Willshire believed that, on the one hand, we had sufficient clinical experience to warrant the assertion of the connection of cerebral lesions with rheumatism, as also to show that the encephalic disturbances were sometimes due alone to cardiac complications; and on the other, sufficiently fair hypothesis to permit of the acceptance of "bloodletting" as an occasional cause of the cerebro-rachidian mischief. In proof of the second proposition, the author entered into some details, and dwelt upon the particulars of a case which had lately fallen under his notice. The paper concluded with some observations on

the literature of the latter part of the subject of it, especially in reference to foreign writings.

ART. 154 — *On Milk-abscess in newly-born Children.* By Dr. N. GUILLOT.

(*Archiv. Gen. de Méd.*, Nov., 1853.)

Healthy robust children generally secrete milk for a period varying from seven to twelve days after birth, the secretion possessing all the character of the milk which is met with in the adult; and miniature "milk-abscess" may sometimes arise from suppression of this secretion, or from other causes. Dr. Guillot relates five of these cases, each of which presented the ordinary symptoms of inflammation of the mammary gland.

The fact of the secretion of milk in newly-born children has been long known, as well as the frequent occurrence of a similar secretion in both sexes during the establishment of puberty; but the fact had been almost forgotten.

ART. 155 — *Upon the Treatment of Hooping-Cough.* By Dr. TODD, Physician to King's College Hospital.

(*Medical Times and Gazette*, March 4, 1854.)

The following remarks upon the beneficial influence of chloroform in hooping-cough are in harmony with the observations of Dr. Fleetwood Churchill upon the same subject (vide *Abstract*, vol. xviii). It is to be observed, however, that the clinical lecture from which these remarks are taken was given in January, 1853, though not published at the time, and that thus the priority belongs to Dr. Todd.

"As the disease does not consist in an inflammatory condition of any part, we may at once dismiss all so-called antiphlogistic plans of treatment. That plan, indeed, has had a fair trial; and if it had any real power over the disease, we should have long ere this accumulated abundant evidence to prove its superiority. The tendency of all the usual antiphlogistic measures is to weaken the nutrition of the lungs and the nervous system, and to impoverish the blood, to reduce the quantity of its coloring matter, to favor the accession of convulsions, and, by the watery parts of the blood filtering through the walls of the bloodvessels, to promote the tendency to hydrocephalus.

"The first point in the treatment is, carefully to guard the patient against the occurrence of bronchitis and pneumonia, as complications of the disease. Now, there is nothing which is so fertile a cause of bronchitis as the admission of cold air to the bronchial mucous membrane. Consequently, the patient should be kept in a well-regulated temperature; if his illness occur in the winter, he should stay indoors, in a roomy, well-ventilated apartment, which is not too warm, but of a uniform heat. He should be kept in this apartment, and not allowed to run about the house into rooms, or upon lobbies or staircases, which must present great variety of temperature. Early and close attention to this maintenance of a uniform temperature of the atmosphere in which the child resides may save much subsequent mischief.

"The second point is to uphold the general nutrition—to keep the patient well nourished. I do not mean that the patient should be crammed or overfed; but that his diet should be well regulated, and sufficient food of all kinds supplied, not only to satisfy the appetite, but also—and what is far more important—the real wants of the system. On this account, I object to keep children in this disease without animal food, as some so much insist on, though why they do so I cannot tell; for meat, in regulated quantities, and properly masticated, is more easily digested than almost anything else, and it differs from other alimentary substances in the fact that its digestion consists in a simple process of solution in the stomach.

"Another practice which exercises a most favorable influence on the nervous system (and it is this that we must look to after all) is sponging the chest with cold water once or twice a day. The parents of weakly, delicate children often object to this plan of treatment; but by ordering a little spirit to be mixed with

the water, you not only may overcome their scruples, but in giving a stimulating quality to the application increase its efficacy. This sponging of the back and front of the chest, night and morning, exercises a bracing and tonic influence on the nerves, and in this way often acts very beneficially in this disease. Spirituous embrocations often do good in a similar manner.

“In a large number of cases, one can get on very well without having recourse to drugs. Those which you will find most useful, and which I would recommend to your notice, are sedative and antispasmodic remedies, in virtue of the power which they possess in allaying irritability of the nervous system generally, such as the various preparations of opium, henbane, conium, belladonna, and hydrocyanic acid. The non-nauseating expectorants, such as chloric ether, ammonia, and perhaps senega, may be also used; and astringents, to check excessive bronchial secretion, such as alum, sulphate of zinc, tannic and gallic acids, are sometimes necessary. But you must bear in mind that such remedies should be used with caution, especially opiates, which in infancy and childhood are at all times to be given with great care, and more particularly if the lungs have become congested. The drugs which I would recommend you to avoid are those which have a depressing and lowering tendency, such as tartar emetic and ipecacuanha. Many children, I am quite satisfied, while suffering from hooping-cough, have died from the too free and slovenly exhibition of these emetics.

“If I had an opportunity of treating hooping-cough on the large scale, I would, in cases in which the paroxysms are very frequent and very severe, and when as yet the lungs are free from congestion, but not otherwise, give a fair trial to the careful inhalation of chloroform, with the view of endeavoring to cut short the paroxysm. We know that we can arrest the paroxysm of asthma in this way; why, then, should we not be able to do the same with that of hooping-cough? I have also known laryngismus stridulus relieved by the use of chloroform; and it is now well proved that other convulsions of children may be checked by its means.

“In the cases of delicate children, where there is great reason to fear that damage may be done to the lungs by the cough, this practice may prove very useful. But, with reference to the administration of chloroform, this fact should always be borne in mind, and it cannot be too frequently reiterated, that due provision should be made for the simultaneous free admission of air, along with the vapor of chloroform. There is no point upon which some men seem to be more foolhardy than on this one; and it is by the neglect of attending to this that the reputation of one of the most valuable remedies that has ever been applied to the relief of human suffering may be seriously damaged. I do not advise you to give chloroform so as to produce its full effect; it may be inhaled in small doses of ten or fifteen minims, which may be repeated at intervals, according to the severity of the paroxysms. When children are already in an exhausted and very depressed state chloroform ought not to be administered by inhalation, or it should be given only in the smallest quantities.

“Another remedy in the treatment of hooping-cough, to which I should very much like to give a fair trial, is the application of cold water, on the splashing plan, two or three times daily, with or without the inhalation of chloroform. Such a practice must be pursued with proper precautions; first, to maintain a warm temperature of the room in which it is done; and, secondly, to have the water thrown over the child rapidly, and not so as to wet the head—to let the back and chest receive the brunt of the splash. These measures combined would tend to diminish the severity of the paroxysms, ward off the occurrence of bronchitis and pneumonia, as complications of the disease, promote the general nutrition, stimulate the nervous system, and thus protect the patient from the damaging effects of the cough.

* * * * *

“I am sure that the more hooping-cough is treated as a *spasmodic* rather than an *inflammatory* affection, the greater will be the success of our practice, and the less the mortality from that disease.”

ART. 156.—*On Acute Peritonitis in children at the breast.* By Dr. ISIDORE HENRIETTE, Physician to the Foundling Hospital at Brussels.

(*Archiv de Méd. Belge*, Aug., 1853; and *Dublin Quarterly*, Feb., 1854.)

The frequent occurrence of affections of the serous system in infants at the breast must strike the physician who makes the diseases of children the principal subject of his observation and practice. The peritoneum, the pericardium, the pleura, the membranes of the brain, present in turn, and more frequently than is generally supposed, pathological changes which bear witness to a special tendency in these exhalent tissues to become affected in children at the earliest age. In stating that the diagnosis of these diseases, with the exception of meningitis, the symptoms of which are most frequently sufficiently evident, is obscure, I do not mean to assert that inflammation of the peritoneum, pleura, or pericardium, is only recognizable after death, or that the functional disturbances, to which peritonitis in particular gives rise, are beyond our recognition; still their recognition requires close attention on the part of the physician. I shall, therefore, endeavor to remove the latter disease from the obscurity which surrounds it, both by collecting and arranging the materials for its diagnosis, which are to be found scattered in the observations of writers on the subject, and by describing the results of my own experience. I shall finally point out the characters which distinguish it from entero-colitis, a disease which, it is well-known, is very frequent in children at the breast, and with which peritonitis may most easily be confounded, as occurred in the child who was the subject of the first observation I shall presently report.

In the first place, if we endeavor to ascertain the cause of idiopathic peritonitis in young children, we are soon at a loss, and it is not one of the least singular features of this affection that it appears with unexpected suddenness. It is well known that in the adult, spontaneous peritonitis is rarely observed, and that it is ordinarily met with only in connection with the puerperal state, traumatic lesions, perforations of the digestive tube, &c. Its etiology is, therefore, most uncertain; and I shall just now show that in the two cases in infants which I had under my care in the hospital, it was impossible to trace them to a cause which did not leave too much room for suppositions and hypothesis, and that in particular there was no trace of erysipelas or inflammation observable about the umbilical cicatrix. This it is important to note. A coincidence between my two cases and those observed by Bouchut (I do not think it was anything else) appears to me, however, worth pointing out: the one instance, that of an infant at the breast, suffering from syphilis, and submitted to the mercurial treatment, as in my first case; the other that of a child affected with an erratic erysipelas, as in my second case. Are we to see in this analogy anything but a coincidence, an accidental occurrence? Although such language is scarcely scientific, and may be at variance with certain opinions, I am strongly inclined to believe that it is correct. Doubtless, it would be very important to ascertain the cause of a disease so rapidly fatal, because we might then be able to remove children from the influences which give rise to it; but that is not the question which I wish to elucidate; my principal object is, to enumerate the symptoms I have noted, with a view to obtaining a positive diagnosis, to establish the signs, hitherto, in spite of modern labors, imperfect, of an affection which, as I have just said, is, nevertheless, frequent. In the adult the symptoms of acute peritonitis are most characteristic; it is difficult to mistake them; they are so clear that, except with such inexperience as can only occur in the merest tyro, it is almost impossible not to make an accurate diagnosis. Does the same hold good in children at the breast. No. Here there is no information to be derived from the patient; nor does the disease reveal itself to our senses, as in the adult, in a contracted countenance, and a small, compressed, and peritoneal pulse; there is, indeed, pain on pressure, and tumefaction of the abdomen; but these two morbid manifestations belong equally to diseases of the intestinal tube, and it is, nevertheless, in their existence that the diagnosis is, in great part, founded. It is, then quite necessary to define, accurately, the conditions of their presence or absence, their

intensity and progress in the peritonitis of nurslings, in order to distinguish the latter affection from acute gastro-colitis.

Peritonitis in children commences suddenly; we do not know whether it is, as in adults, preceded by rigors; but this we know, that, threatening in its first appearance, it is not preceded by any premonitory symptoms. The children I have had an opportunity of observing enjoyed a comparatively satisfactory state of health up to the moment in which the peritonitis set in. They had not previously presented anything unusual. Entero-colitis begins less abruptly; the infants refuse the breast, or take it with indifference some days before the appearance of the disease, intestinal gurglings supervene, and the alvine discharges become disordered.

IN PERITONITIS.

Tenderness of the belly is excessive, as it is in any disease of the abdominal organs; the infant screams out on the least pressure.

Swelling of the abdomen occurs with great rapidity; the belly becomes inflated, so to speak, under our eyes, from the very commencement of the peritoneal inflammation, at the same time that dulness sets in over the lower or pubic part.

Vomiting is rare, and takes place only at the commencement; the vomited matters are unmixed, perfectly green, and stain the linen on which they are discharged.

Constipation is a symptom which I have observed in two cases I have noted.

The face scarcely changes; the eyes are more than usually fixed; and the children preserve their plumpness.

The little patients remain almost motionless, and cry when they are stirred.

Respiration is perfectly thoracic, and very much hurried; the inspiratory movements are incomplete and limited, as described by Bouchut.

IN ENTERO-COLITIS.

The abdominal sensibility is less acute; a certain amount of pressure may even be exercised without producing cries.

The tumefaction of the abdomen takes place less rapidly, and almost always in the ratio of the intensity of the intestinal inflammation.

Vomiting is more frequent, and more continued; the matters ejected are almost always mixed, and are of a yellowish-green color.

Diarrhœa is almost constantly present, or at least the motions are curdled, greenish, and heterogeneous.

The face rapidly becomes wan, the eyes and mouth are encircled with blue, emaciation progresses quickly.

The children frequently draw up their legs over the abdomen.

The same symptoms are produced, but with much less intensity. The diaphragm does not remain, as in peritonitis, motionless and passive.

Such are the most prominent symptoms I have observed. They are at variance with some of those described by Billard, almost the only physician who has paid special attention to peritonitis in children at the breast, and who has given a description of it at all approaching to completeness, as, for example, the distortion of the features, and the nature of the matters vomited.

To some it may, perhaps, appear strange that I have not noted the signs furnished by an examination of the general symptoms, and of the pulse in particular. I have omitted doing so because these phenomena have not differed from those presented by any ordinary pyrexial affection. I shall say nothing of the treatment of this formidable malady, except that I have derived so little advantage from the employment of antiphlogistics and emollients that I intend, when I next have occasion to treat peritonitis in young infants, to combine a mercurial treatment with the antiphlogistic, following in this respect the practice and the experience acquired in the case of adults. I am far, however, from being sanguine as to the final result of this combined plan, for death ensues so rapidly that I can scarcely conceive of therapeutic agents having time to take effect.

REPORTS

ON THE

PROGRESS OF THE MEDICAL SCIENCES.

January—June, 1854.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new ; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendation, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge,—the alleviation of suffering and disease.

I.

REPORT ON PRACTICAL MEDICINE, ETC.

1. *Reports on Epidemic Cholera, drawn up at the desire of the Cholera Committee of the Royal College of Physicians.* By WILLIAM BALY, M.D., and W. W. GULL, M.D. (London, Churchill, 1854; pp. 565.)
2. *On the internal use of Chloroform in Cholera.* By Dr. HARTSHORNE. (*American Journal of Medical Sciences*, January, 1854.)
3. *The principles upon which the treatment of Cholera should be based.* By J. SNOW, M.D., F.R.S. (*Medical Times and Gazette*, 25th February, 1854.)
4. *On the use of Iodine in Cholera.* By Dr. BUCHANAN. (*Glasgow Medical Journal*, April, 1854.)

1. The reports on Epidemic Cholera drawn up at the desire of the Cholera Committee of the Royal College of Physicians consists of two parts—the first, on the cause and mode of diffusion of the disease, by Dr. Baly; the second, on the morbid anatomy, pathology, and treatment of the disease, by Dr. Gull.

The facts upon which these reports are based are supplied, principally but not exclusively, by upwards of 400 members of the profession, in answer to the letters addressed to them by the Cholera Committee of the College.

(a) Dr. Baly examines the several facts which come within his province with reference to the six different theories which may be said to express the chief varieties of opinion relative to the cause and mode of diffusion of the disease.

"The first theory is, that the disease spreads by an 'atmospheric influence or epidemic constitution,' its progress consisting of a succession of local outbreaks, and that the particular localities affected are determined by certain 'localizing conditions,' which are, first, all those well-known circumstances which render places insalubrious; and, second, a susceptibility of the disease in the inhabitants of such places, produced by the habitual respiration of an impure atmosphere.

"The second theory, following the analogy of diseases known to be due to morbid poisons, regards the cause of cholera as a morbid matter which undergoes increase only within the human body, and is propagated by means of emanations from the bodies of the sick, in other words, by contagion.

"The third theory—that propounded by Dr. Snow—gives a more specific form to the doctrine of contagion. It supposes that the poison of cholera is swallowed, and acts directly on the mucous membrane of the intestines, is at the same time reproduced in the intestinal canal, and passes out, much increased, with the discharges, and that these discharges afterwards, in various ways, but chiefly by becoming mixed with the drinking water in rivers or wells, reach the alimentary canals of other persons, and produce the like disease in them.

"The fourth theory also assumes that the cause of cholera is a morbid matter or poison, but supposes that it is reproduced only in the air, not within the bodies of those whom it affects, and that its diffusion is due to the agency of the atmosphere.

"The fifth theory is a modification of the fourth. It admits that the cholera matter is increased by a species of fermentation or other mode of reproduction in impure, damp, and stagnant air, but maintains that it nevertheless is distributed and diffused by means of human intercourse; it being carried in ships and other vehicles, and even in the clothes of men, especially the foul clothes of vagrants and the accumulated baggage of armies.

"The sixth theory combines the second and fourth, assuming that the material

causes of the disease may be increased and propagated in and by impure air, as well as in and by the human body."

The result of this examination is that that theory is alone supported by a large amount of evidence which regards the cause of cholera as a matter increasing by some process, whether chemical or organic, in impure or damp air, and which assumes that this matter is distributed and diffused by means of human intercourse as well as by contamination of the air.

It does not appear, however, that all difficulties are cleared away by this conclusion. We can very well understand that a filthy and foul locality is a necessary nidus for the production of the cholera poison, and that in this point of view cholera is an endemic rather than an epidemic disease; but we have more difficulty in supposing that the human body may not also be a nidus, and this difficulty is necessarily increased by the conclusion respecting the nature of the cholera poison: for if this poison be organic, and disseminable by human intercourse, it is difficult to understand why it should not thrive within the body as much as any other infectious morbid germ.

What, however, is of greater importance than any speculation as to the ultimate cause of the disease, is the question of infection. What light does the Report throw upon it? Dr. Baly answers—

"Amongst the eighty-four communications relative to this topic, there are thirty-two in which the writers either distinctly maintain that the disease is not contagious or infectious, or evidently lean to the adoption of that view, and seven in which the contagious or infectious nature of the disease is asserted in an unqualified manner. On the other hand, in fifteen of the replies received by the Committee, the writers advocate, or at least admit, the probability that cholera is propagated in more than one way; in twenty-four no opinion is expressed, although in several of these the facts communicated are so stated as to show that the writers would not altogether exclude infection of some kind from the modes of diffusion, yet clearly regard it as only of partial influence; and in six other papers, it is simply stated that the disease is communicable under some circumstances, or that instances of infection have been observed by the writers."

The voice of the Report is clearly in favor of infection, and the conclusion is that human intercourse, foul ships and barges, bodies of troops, dirty vagrants, and foul clothes are the main means by which the infection is carried from one country to another, and from one town to another. Quarantine and sanitary cordons, however, are not recommended.

"Quarantine can no longer be adopted as the means of preventing the entrance of cholera into England; for it is incompatible with the present state of commercial intercourse, and with the well-being of a commercial country. Moreover, quarantine has undoubtedly often failed of its object, partly from its being evaded by the crews of infected ships; partly, perhaps, from the ships being placed so near to habitations on shore, that the infected air of the ship would be carried to them by atmospheric currents; and in some cases, probably, because clothes still containing infectious matter were conveyed on shore during, or subsequently to, the period of quarantine.

"For similar reasons sanitary cordons around towns are now impracticable, and have at former periods often, though apparently not always, failed to prevent the diffusion of cholera.

"But if the ordinary regulations of quarantine and sanitary cordons are relinquished, it is the more desirable to adopt other measures which shall oppose some obstacle to the importation of cholera, and to its propagation from one town to another in this country.

"It cannot be doubted that ships are more or less fitted to convey the disease or its cause, from port to port, in proportion to their want of cleanliness, defective ventilation, and over-crowded state, and that if these evils, of which the two former are so flagrant in the smaller trading vessels, and the two latter in ships carrying passengers, could be removed, the danger of the importation of cholera would be greatly lessened. While, therefore, it is much to be desired, on general grounds, that measures should be adopted for inculcating and enforcing attention to cleanliness and free ventilation in the whole mercantile marine, the especial application of measures of this kind to ships coming from ports

where cholera prevails, as far as may be practicable, is imperatively called for. A close inspection of all such vessels should be made on their arrival in port; and it would not be unreasonable to require that, in consideration of the restrictions of quarantine being abrogated, there should be brought with each ship coming from an infected port an official certificate of its having been inspected, and found cleanly and not overcrowded, and the crew healthy, at the time of its sailing.

"On the arrival of ships having persons ill of cholera on board, or having had deaths from that disease during the voyage, more active measures must be adopted, and the best that have been recommended seem to be. 1, the removal of the sick to a hospital ship, moored at a distance from the other shipping in the harbor, or to a special hospital in an isolated and airy situation on shore; 2, permission to the rest of the crew to land after exchanging their dress for fresh clothes provided from the shore; 3, the thorough exposure of all articles of dress and baggage to the air and disinfecting agents before they are removed from the ship, and 4, the thorough cleansing of the ship itself, with the free use of disinfecting agents in every part of it, but especially in the parts occupied by the crew and passengers, or their baggage.

"It notwithstanding such precautions as these, cholera finds its way into the country then the low lodging-houses frequented by vagrants and the vagrant-wards of work-houses should be narrowly watched. For these especially are the places in which the disease is fostered, and whence it seems to be distributed widely to other localities. In these establishments, then, the most scrupulous cleanliness and free ventilation should be maintained, and even the personal cleanliness of the inmates, as far as possible, enforced.

"When cholera appears in the places referred to, or within dwellings of the poor, intercourse with the surrounding population of course cannot be interdicted; but still it is possible to adopt measures which would not only check the extension of the disease among the inhabitants of the infected houses, but greatly diminish the risk of its propagation to other localities. Of these, the most important is the provision of spacious and well-ventilated buildings in airy dry sites, for the reception of the inhabitants of the infected spot, while their dwellings are cleansed and disinfected. These 'Houses of Refuge,' it cannot be doubted have saved many lives from destruction by cholera, both in this country and on the Continent. No considerable town should be without one; and several should be prepared in the environs of the larger cities.

"The 'Houses of Refuge' would receive the healthy, but for those already laboring under cholera other asylums must be found.

"There has been much difference of opinion respecting the desirableness of establishing Cholera Hospitals. But it surely cannot be disputed that those struck with cholera amongst the poor ought to be carried to some hospital, if they are at all in a fit state to be removed. They cannot be properly treated in their homes, and the mere change to a purer air offers them a better chance of recovery. Moreover, in the rooms in which the poor are struck with cholera, those who nurse them, and in a less degree those who visit them, are exposed to danger, probably not from contagion, but in most cases from the pestiferous atmosphere of the locality; while, if the sick are placed in the spacious and well-ventilated ward of a hospital, nearly all danger from approaching them is at an end. Wherever, therefore, general hospitals do not exist, or cannot afford sufficient space, Cholera Hospitals should be established."

(b) Dr Gull's part of the Report is arranged under the three heads of morbid anatomy, pathology, and treatment, and under each of these heads much interesting information is collected together. Of this information, that which bears upon the treatment is at the same time most novel and most practically useful.

Dr Gull is of opinion that facts scarcely warrant the generally received belief in the paramount importance of stopping premonitory diarrhoea as a means of preventing cholera.

"The amount of success obtained by early treatment is not yet determined; there is a general opinion that it was very great, but this must be received with some limitation, as the facts upon which it is founded are not unequivocal. By far the larger number of cases of diarrhoea would probably never have passed

beyond this stage if no medicines had been administered; and, on the contrary, in many instances the symptoms were uninfluenced by any treatment, and fatal collapse came on in spite of every effort to prevent it.

“Notwithstanding this uncertainty, the general results of preventive measures were apparently very favorable, as shown by the small proportion of cases which passed into the severer forms of the disease subsequently to early treatment.

“Although this is sufficient to establish the great practical importance of house-to-house visitation amongst the poor, the results at present obtained indicate a degree of success which an exact scrutiny of the circumstances does not permit us to infer.

“This system was not brought into operation in the metropolis until the first week in September, 1849, the period at which the mortality had reached its acmé, the disease having already, on the 7th of September, numbered 13,520 victims. We cannot, therefore, think with Mr. Grainger that the uniform success which attended the preventive system in all parts of London was independent of the natural decline of the epidemic.

“Epidemics cease at last, as fire does, from the want of combustible materials; and on this point we may quote from the communication made to the College by Dr. Burrows:

“‘According to my experience,’ he says, ‘the facility with which the serous diarrhœa may be checked depends mainly upon the period of the epidemic when the treatment is adopted. Those remedies which are powerless in the height of the epidemic in any locality, will prove efficacious towards its decline. Thus, cases of serous diarrhœa, with symptoms of exhaustion short of collapse, appeared, in spite of unremitting attention, to be quite uncontrollable in the month of July; whilst cases of equal urgency at the time of admission, in the month of September, were controlled with a facility which often quite astonished me when I reflected upon my want of success at an earlier period of the epidemic.’

“On comparing the curve indicating the decline of the epidemic in the whole country, in the autumn of 1849, with that for London in particular at the same time (see the maps in the Registrar-General’s Report), there is the closest coincidence between them; from which we may conclude that the causes in operation were the same in both, and hence we cannot attribute the diminution of the mortality in the latter, in any great degree, to the interference of preventive treatment.

“The following are the results of the house-to-house visitation in the metropolis, from September 1 (4?) to October 27, 1849:

Cases of Diarrhœa discovered.	Cases approaching Cholera discovered.	Cases which passed into Cholera after treatment.
43,737	978	52

“The town of Dumfries is referred to in Dr. Sutherland’s report as having afforded a striking instance of the advantages of a house-to-house visitation, but the same objection obtains as before. It was not until the 10th of December, 1848, that the system was begun, and not until the 13th that it was in efficient operation, when 250 persons had already died in a population of 10,000. On referring to the Table accompanying the Report, it appears that the mortality had reached its highest point nearly a week earlier than the above date, and was already declining when the preventive system was instituted.

“In the case of Glasgow the same objection does not apply, as the visitation system was commenced at an earlier period of the epidemic, and so efficiently carried out that, in the words of the Report,

“‘Whether we consider the extent of the machinery employed, or the zeal with which it was sustained, or the expense cheerfully incurred, no provision more munificent was ever made for the relief of a great public calamity than that carried out by the humane and enlightened citizens of Glasgow.’

“We are therefore greatly interested in learning the result. The epidemic

began on the 11th of November, 1848, and on the 26th of December there had been 214 fatal cases. The house-to-house visitation was instituted 'in the city parishes about the 26th or 27th of December, and in the barony parishes a day or two later.' Notwithstanding this the mortality steadily increased for a fortnight, and maintained a high rate for nearly a month, and even then declined but very slowly; the deaths after house-to-house visitation was begun being 898, and in the whole epidemic 1112.

"Dr Sutherland, however, concludes that a very marked effect was produced upon the comparative mortality of the disease even in this instance. He compares the percentage of deaths with the percentage of recoveries, as deduced from the whole number attacked at different periods of the epidemic, and finds that after the preventive system was in operation the ratio of deaths to those attacked was greatly diminished. But as the latter series is somewhat arbitrary, and would of necessity be more numerous when every case was recorded, the conclusions thus drawn do not inform us so certainly of the value of the remedies employed, as does the absolute rate of mortality.

"The following are the general results of the preventive measures employed for the city and barony parishes of Glasgow:—

Parishes	Premontory Cases.				Cholera.	
	Applicants to Dispensaries	Diarrhoea Cases discovered	Rice-water Purging Cases discovered	Total Premontory Cases treated	Premontory Cases passed into Cholera.	Cholera Cases.
City	3066	2736	473	6215	15	1231
Barony	3113	3255	506	6874	12	1003
Total	6179	5991	979	13,089	27	2234

"A large amount of evidence bearing upon this subject is further contained in the reports by Mr Grainger and Dr Sutherland, which, after all the abatements in it, arising from the sources of fallacy indicated above, is yet sufficient to place the preventive system in the first position of importance as a measure for counteracting the development of the disease into its severer forms. It cannot be a matter of doubt that the earlier the disease is encountered, the greater, in an infinitely high ratio, are the advantages under which medicines are employed to counteract it. This statement is confirmed by the communications received by the College."

Speaking of the treatment of actual cholera, Dr. Gull makes this very important remark—"Under various and opposite plans, the recoveries, even in severe cases, averaged from 45 to 50 per cent, according to the period of the epidemic; they should therefore exceed the highest of these numbers before they can be adduced in proof of the value of any particular method of treatment" (p. 176). In our opinion, much obscurity in this subject has arisen for want of a rule such as this.

The opinions respecting the principal modes of treatment already tried are for the most part vague and unsatisfactory.

"In general no appreciable effects followed the administration of *calomel*, even after a large amount in small and repeated doses had been administered. For the most part, it was quickly evacuated by vomiting or purging, or, when retained for a longer period, was passed from the bowels unchanged. Salivation but very rarely occurred, and then only in milder cases. We conclude that it was inert when administered in collapse, that the cases of recovery following its employment at this period were due to the natural course of the disease, as they did not surpass the ordinary average obtained when the treatment consisted in the use of cold water only" (p. 177). . . . "The results of the treatment by *calomel*, *opium*, and *stimulants* "were unfavorable, and not altogether so indifferent as when *calomel* was exhibited by itself" (p. 185). . . .

"The expectations excited by the early success apparently obtained by the use of *chloroform* were not realized in its subsequent employment. It not unfre-

quently allayed the vomiting and cramps, but did not in any degree arrest the course of the disease" (p. 185). . . . "The obvious requirements of the system, and the urgent thirst, were sufficient indications for the use of diluents, and the experience of the profession appears to be uniformly in favor of permitting patients to gratify their appetite for them. *Cold water* was generally preferred, and good results were often observed when it was taken freely in repeated and copious draughts, although it excited vomiting. In smaller quantities, and iced, it was refreshing to the system, and allayed the irritability of the stomach. *Ice* was generally grateful to patients in impending or approaching collapse, and probably acted favorably upon the mucous membrane, and served to arrest the discharges" (p. 195). . . . "We had no evidence that *salines* possessed any influence over the local morbid action in the mucous membrane. It was not until this surface had in part recovered its function of absorption that any good resulted from their employment. When given at an early period, and in a more concentrated form, they appeared to favor the discharges" (p. 196). . . . "In early stages *emetics* were sometimes of use, and in collapse the effects were equivocal" (p. 198). . . . *Bleeding* "was not much resorted to in the last epidemic, and the communications to the College contain little mention of it." "Its general inadmissibility is to be inferred from its almost entire disuse in the last epidemic" (p. 200). . . . Respecting various *specific remedies*, such as quinia, strychnia, arsenic, sesquichloride of iron, nitrate of silver, nitrous acid, chlorine water, sulphur, sulphuric acid, bichloride of mercury, charcoal, &c., &c., it is said that "it is notorious that the results have been discouraging, notwithstanding the bold assertions to the contrary. The communications to the College contain no data for determining the inquiry, nor is anything deserving the name of evidence in favor of the value of these means to be gathered from the numerous journals and published treatises in this country or on the Continent" (p. 204). . . . The application of *heat to the surface* in various ways has been largely tried, and "it appears to be the uniform experience of the profession that in collapse this means is but of little value." "The whole tendency of the evidence yet acquired for the treatment of this stage is towards a more restricted use of powerful excitants of this kind" (pp. 205-6). . . . "The results of the cold affusion appear to have been, on the whole, more satisfactory than from the hot-bath" (p. 206). . . . It is thought that saline injections into the veins have not been tried with all those precautions which are necessary to insure success, except in very few cases. They were not much tried during the last epidemic, and when they were, the results (as in 1832-33) were generally unfavorable.

2. Dr. Hartshorne speaks very highly of the good resulting from the internal administration of chloroform in severe cases of cholera, but he does not give any particulars from which an independent opinion may be formed. The chloroform, however, is not given singly, but in association with camphor, opium, essential oil, and alcohol, in the following proportions: Chloroform $\mathfrak{z}\text{ij}$, tincturæ camphoræ and tincturæ opii aa $\mathfrak{z}\text{iss}$, olei cinnamomi $\mathfrak{xxv}\text{ij}$, alcohol $\mathfrak{z}\text{iiij}$, M. The dose of this "chloroform paregoric" is from 5 to 30 minims, or even more. The late Professor W. E. Horner, appears to have suggested the chloroform in this combination and to have used it with considerable success.

3. In Dr. Stow's opinion, the absence of settled opinions respecting the nature of cholera was the cause of the various and contrary plans on which it was treated. In the greater number of epidemic or self-propagating diseases the morbid poison entered the blood in some way, and after multiplying itself during a period of so-called incubation, it affected the whole system, the illness commencing by fever and other general symptoms. Cholera, on the other hand, commenced with an effusion of fluid into the alimentary canal, without any previous illness whatever, and the subsequent symptoms were the result of the change in the blood occasioned by this effusion of its watery part. The analysis of the blood of cholera patients, performed by Dr. O'Shaughnessy, Dr. Garrod, and others, proved that its thick and tarry condition was caused by the loss of a great part of its water, together with a portion of its saline constituents. The physical state of the blood prevented it from passing through the capillaries of the lungs, except in very small quantity, and these occasioned the symptoms of

asphyxia; whilst the arteries throughout the body, being almost deprived of blood from the same cause, produced the coldness and other symptoms of collapse. These circumstances indicated that the immediate action of the cholera poison was confined to the alimentary canal, and this view was confirmed by the circumstance that all the general symptoms could be removed for a time by the injection of a weak saline solution into the veins, which merely replaced the portion of the blood which had been lost, and could not remove the effects of a poison circulating in that fluid. The preliminary diarrhœa with which the greater number of cholera cases commenced, could generally be cured by the ordinary remedies for diarrhœa, which could not have had any effect on a poison circulating in the blood. In Dr. Snow's opinion, the cholera poison entered the alimentary canal by being accidentally swallowed, and there propagating itself, is discharged in the evacuations; and this view, and the nature of the disease, causes him to suggest the following principles of treatment —

1st. Medicines should be chosen which have the effect of destroying low forms of organized beings, and of preventing fermentation, putrefaction, and other kinds of molecular change in organic matter. Prepared animal charcoal, sulphur, and creasote were amongst the agents which deserve a more extended trial.

2d. The remedies should be administered with a view to their action in the stomach and bowels, and not to their being absorbed.

3d. They should be given in such quantities and in such a form as to insure, as much as possible, their application to the whole surface of the alimentary tube.

4th. These medicines should be continued till there was no danger of a return of the purging.

5th. It was useless and injurious to attempt to bring the patient out of the state of collapse by stimulants and the application of heat, and they should give watery drinks, and be content to wait till they were absorbed, unless in desperate cases, in which it might be desirable to inject into the bloodvessels a weak saline solution, resembling the portion of the blood which had been lost.

4. Considering that iodine, when administered medicinally, never passes out of the system by way of the intestines, it occurred to Dr. Buchanan that he might put a stop to the intestinal serous hemorrhage of cholera by impregnating the blood freely with this substance. With this view he has given iodine in several cases of this disease, and his friends have done the same, and, in his opinion, the results have not disappointed his expectations. From 9 to 16 grains of iodine, in the form of iodide of starch, were given in the course of twenty-four hours. It must be observed, however, that opium formed a part of the treatment in these cases.

Die Heilung und Verhütung des Cretinismus und ihre neuesten fortschritte. Von Dr. GUGGENBUHL. (4to, Bern and St. Gallen, 1853, pp. 121.)

The Cure and Prevention of Cretinism. By Dr. GUGGENBUHL.

It is now more than fifteen years since Dr. Guggenbuhl conceived the idea that cretinism was not a hopeless malady, and set himself to prove the correctness of his conception in his Cretin Asylum on the Abendberg; and ever since this time he has labored hard, and travelled far and wide, in furtherance of his benevolent object. To this cause the idiot asylums of this and other countries owe their origin. Dr. Guggenbuhl is indeed the author of a movement which entitles him to a very eminent rank among the benefactors of mankind.

The experiments on the Abendberg have shown that, in many instances, the cretin may be converted from a torpid, soulless clod, into the affectionate, intelligent, religious creature, fit to associate with human beings, and capable of earning his own bread, even by his intellect—for one of Dr. Guggenbuhl's former pupils is now discharging the office of a schoolmaster. They have also shown that the rickety, or otherwise diseased frame, which is always associated with cretinism, and which association makes the principal distinction between the cretin and the idiot (whose mind alone is usually at fault) may be removed along with the intellectual and psychical torpor. These experiments, indeed,

are full of significance to every one, and especially to parents, for if so much may be done for the cretin, what may not be done for the healthy child when he is withdrawn from those localities in which health is impossible, and when care is taken to train it up after a more rational method.

The work before us is a Report which was read before the Swiss Society of Naturalists. It consists of two parts—the first is a general history of cretinism in different countries, and of the several steps which have been taken to remedy the evil; the second is an account of the cretin-asylum on the Abendberg, of the principles of treatment adopted in that establishment, and of several cases which have been treated there, or which are now under treatment. Our space only allows us to glance at the contents of the latter part.

Change of locality from the foul, stagnant air in which the disease originates, to the pure bracing air of the mountains, is a prime essential in the cure and prevention of cretinism; and hence the grand advantage of the Abendberg. This mountain is 3,500 feet above the plain of Interlachen, which is itself 1,800 feet above the level of the sea. The immediate locality is a green open terrace, on the southern side of the mountain, sheltered without being hemmed in by neighboring forests, and having before it some of the most magnificent scenery in the world—the green plain of Interlachen and the lakes of Thun and Brienz far down below, and the Jungfrau and other magnificent mountains in the background. The scene is wanting in nothing which can charm the eye and excite the imagination. In the asylum all those means are put in requisition which kindness and skill can suggest as likely to improve the bodily health, such as good plain food, warm baths, stimulating frictions to the skin, galvanism to the torpid muscles, various tonic remedies, and eventually gymnastic and other appropriate exercises. Evacuating and lowering measures are avoided in all cases. At the same time the business of education is patiently and actively attended to. The peculiarities of the case are carefully noted, and that sense is most acted upon which is least dormant. In turn the several senses are excited by their appropriate stimuli until the faculty of perception is awakened, and step by step the eye, the ear, the tongue, the nose, the finger are taught to perform their proper offices. In time the cretin is made acquainted with the mysteries of letters and figures, the letters or figures first written with phosphorus in a dark room, if the eye does not readily catch the simple black lines of the printed surface. Much time and patience are of course expended in this process, and it is often so long before the attention can be fixed at all, that the cure seems to be hopeless, but once fixed upon anything, and the progress is usually rapid, the mind acquiring large supplies of new vigor day by day, until at last as we have already said, the poor cretin is transformed into an affectionate, intelligent, religious, and useful member of society.

In illustration of this, we take one of the many cases which are related in the volume.

F. M—— is the youngest of five cretin children. He is the child of healthy parents, who have lived all their lives in a damp shaded valley, where cretinism was very common. At birth, his head was very large and ill-formed, and his body and limbs small and wasted. For the first three years he made some progress, and learnt to stand and walk, and to say a few words; and then his mental and bodily development became stationary. Three years after this he came to the Abendberg. At this time there was the greatest contrast between his head and body, nearly half of his entire height, which was only 37 inches, being made up by the former. The head was cold and pendant, the tongue thick, the complexion pale, the body thin and wasted, the belly protuberant, the legs rickety, the appetite immoderate, the speech limited to a few words, and the power of walking scarcely present. His intellect was so dull that many months elapsed before he could be taught to distinguish between his hand and his finger. After admission his bodily health became greatly improved; but a whole year passed away before he began to manifest any decided sign of mental improvement. Then he began suddenly to speak, and to attend to what was passing. During the first two years he grew only half an inch; but after this time he grew more rapidly, and a good deal of the original disproportion between the head and the body disappeared, the head at the same time acquiring a more natural form than

It had at first. Contemporaneously with this change the memory became awakened, and before long he was able to remember all the principal facts in connection with the geography of Switzerland. He also learned to read and write. Occasionally, however, the original torpor and apathy would return, and for the time he forgot everything which he had learnt; but these attacks became less severe and frequent, until they altogether ceased. Now he speaks two languages perfectly, and is completely restored. (p. 65.)

Prodromal observations on Gout and its complications, and on the treatment of joints stiffened by gouty deposits. By T. SPENCER WELLS, F.R.C.S., &c.—London: Churchill, 12mo., 1854, pp. 288.

"I do not attempt," writes the author in the preface, "to produce anything like a systematic treatise on gout, or to give any lengthened description of the symptoms by which this disease is manifested in its common forms. Sydenham, who suffered from it in his own person, has left us so accurate an account of his own feelings, that those not similarly qualified by personal suffering, who have followed in his path, have added but little to the knowledge he imparted. Those who wish to know what has been done since his time will find the information they desire in almost any of the systematic works on medicine of which the British press has been of late years so prolific. My object is to impart some facts which will not be found in other books, and to make certain reflections upon these facts. I shall inquire, What is gout? What are its causes? How is it modified by rheumatism? How by syphilis? How does it show itself in the female? What are the various forms of internal or latent gout? And, lastly, what are the habits, diets, exercises, climates, and medicines, by which gout may be kept off—which exert a curative influence, during an attack, in some of its various forms—which prevent a relapse, and which restore such of the tissues of the body as have been damaged by gouty deposits to their former healthy condition? It is with the last intention that I have principally employed the iodide of potassium, and I shall bring forward strong grounds for concluding that its efficacy is very great, and that it exerts a direct chemical action on gouty deposits which has escaped the notice of former observers.

"It may be thought by some that, as a surgeon, I am intruding somewhat upon the province of the physician in treating cases of gout, but I believe that the class of cases in which I especially recommend the iodide of potassium—cases of enlarged, stiffened, painful joints, surrounded by gouty deposits—are, in the present day, as frequently presented to the notice of the surgeon as to that of the physician, and not improperly, for the mechanical applications of friction, percussion, pressure, and the douche, constitute a most essential element in the treatment."

The answers to these questions are for the most part satisfactory, and, what is no small merit, they are always clear and concise, so that the reader can be at no loss as to the author's meaning.

After considering gout and its causes, and gout as modified by rheumatism, Mr. Wells proceeds to consider gout as modified by syphilis. This subject is comparatively unbroken ground, and upon it much stress is laid. It is argued that gout is frequently modified by syphilis, partly because irregular gout is often accompanied by signs of constitutional syphilis, and partly because iodide of potassium, which is known to be an invaluable remedy in syphilis, is also found to be an invaluable remedy in the treatment of gout.

The chapter on gout in the female is of particular interest, for gout has generally been supposed to be confined to the male. It is argued that a certain vigor of constitution is essential to the establishment of an attack of acute normal gout, and that the various anomalous forms of the affection are chiefly owing to the want of this vigor. Hence, women are more likely to suffer from anomalous gout than men. Mr. Wells, however, contrives to detect the hidden malady in certain forms of dyspepsia, in many general and local nervous disorders, in irritable uterus, in leucorrhœa, and in deformed joints; and we have little doubt as to the correctness of his diagnosis. Still, it would have been better if our author had distinctly stated that he had detected lithic acid in the blood, or found the

peculiar concretions of gout, or satisfied himself by the results of treatment; for without such statement some of his readers will perhaps doubt whether the diathesis in all these cases was of the character supposed.

After a chapter full of excellent remarks on the hygienic treatment of gout, there follows a chapter on the "cold-water cure," which will not fail to surprise some of the more strenuous sticklers for orthodox medicine.

"The 'cold-water cure,' " he begins, "may be said to hold an intermediate place between the natural and medicinal treatment of disease. So much real good has undoubtedly been effected by it in many varieties of chronic disease, chronic gouty affections among others, that it becomes necessary for the medical man to throw aside all that prejudice and aversion to the system which is derived from the conviction that it was originated by persons who had not received a medical education, and has without doubt been followed and practised by many persons with much quackery, and with but little discrimination, as a general cure for all diseases, and with much abuse of regular medical practitioners. We must overlook all this, and with the sincere desire to seize all the good to be in any way obtained for our patients, examine what really can be effected by the scientific application of the various processes the professors of hydropathy have practised with more or less judgment, or with more or less ignorance and boldness. It cannot be doubted that they have brought under our notice various powerful means of modifying the vital actions and conditions of the whole body, means, if not previously unknown, which at least were generally neglected by the profession, and still remain so to a very considerable and perhaps blamable degree."

Mr. Wells's opinions upon this subject have been formed after visiting some of the best-conducted hydropathic establishments in Germany, and after residing for two months at Malvern. He considers the "cold-water cure" as dangerous in acute gout, in gouty febrile excitement, and in those chronic cases in which the power of resisting cold is defective, as shown by general chilliness after sprinkling or dashing the surface of the body with cold water, or by the failure of moderate friction to produce a genial glow after the cold plunge bath; also in those cases in which the urine and joints are loaded with phosphates—until, at least, a beneficial change has been effected by the use of appropriate medicines. On the other hand, he considers the water-cure desirable if the case is purely chronic, and if the powers of reaction are good. Mr. Wells, however, does not transfer all his patients to heterodox practitioners, and how he acts under these difficult circumstances he proceeds to explain.

"If any one can, without great inconvenience, without inducing mental anxiety by absence from important concerns or near relations, absent himself completely from all the causes which have contributed to bring on his disease, from temptations to luxurious living and sedentary habits, from too great mental exertion, from the toils of the senate, committee, bar, pulpit, or exchange,—if he can thus effect a perfect change in all his habits of life, go to a strange country or district, among new faces and fine scenery, where he will find interest without excitement, be induced to take active exercise, if not incapable of doing so, and in the latter case be subjected to the best applications of passive exercise (although it is rare that sawing or chopping wood, or some form of gymnastic exercise may not be practised, when walking or riding on horseback are impracticable), where perspiration and bathing will promote free excretion from the skin, and draughts of cold water will dissolve and carry off morbid matters from the blood, and provoke a natural appetite for natural food; when he leaves off a system of drugging which has often been injurious, and where confidence in a new system induces hope and cheerfulness, there can be little doubt that, under a skilful and cautious adviser, such a proceeding would be the one of all others most likely to effect a rapid restoration of health and strength.

"There are certain cautions, however, which must be observed in all these establishments, the principal of which is not to 'overdo the cure,' as many are apt to do. A few glasses of cold water daily are useful and necessary, especially where sweating is profuse, but the enormous quantities some persons are induced to swallow are never necessary, and must prove more or less injurious.

Again, one cold bath daily, or the application of the douche or wet compress, is generally followed by tolerably permanent reaction, a disposition for exercise and good appetite; but if these baths, douches, or compresses, become the business of the day, the powers of the system are overtaxed, debility is produced, reaction becomes more feeble, and the patient returns home in a worse condition than before he left. The grand object is to produce just so much cooling of the body as shall call the heat-producing function of the lungs into activity, and thus burn up, not only all the superfluous carbonized matter in the system, but such a proportion of the vital tissues as shall lead to a necessity for their repair by newly-deposited nutritive matter, and a necessity for the supply of this matter by the digestive organs. But this must not be overdone, or weak digestive organs will be unable to supply loss, and the process of animal combustion will be performed very imperfectly and at the expense of the organic tissues. In moderation, the same means which strengthen and renew the powers of the constitution, in excess impair or destroy them.

"Again, the frictions and other purely local means of modifying the conditions of diseased joints, &c., which in moderation are highly useful, when excessive, are apt to be followed by inflammatory action, an acute attack, and certain mischief.

"Of all the different applications of hydropathic methods to chronic gouty patients, I am disposed to think the safest and most generally useful are the wet sheets as a means of affecting the system generally, and the wet compress as a local application. The wet sheet may be either used to produce simple reaction immediately on rising in the morning, or as a means of inducing continuous perspiration. In the former case, the sheet is wetted with cold water and thrown over the patient, rubbed upon him for a few seconds, active friction being afterwards employed with a rough dry towel. The person should then take some exercise, followed by breakfast. When perspiration is desired, the wet sheet is covered over the body, several blankets are folded over all, probably an eider-down cushion thrown over this, and the person lies, for half an hour to an hour, taking cold water at intervals. It is common to take a cold bath after this, but I believe dry friction to be far safer and equally beneficial in gouty cases. The quantity of matter thrown off from the system in an hour in this manner is really surprising. It consists of water holding various salts and animal matter in solution. It is sometimes sufficiently acid to redden litmus paper, and in gouty cases probably very much resembles the analysis quoted by Dr. Simon (which may be seen at page 49). It is quite clear that as, notwithstanding the large quantity of liquid daily lost by perspiration thus induced, the body maintains or gains upon its former weight, that new matter is deposited in proportion, or in a larger proportion than that removed.

"The wet compress may be used to effect two different objects, either to produce cold and subdue inflammatory action, or to serve as a sort of fomentation, relaxing the vessels of the part, opening the pores of the skin, and thus acting upon the part as the wet sheet does upon the whole body. The cold effect is produced by repeatedly changing the wet bandage as often as it becomes warm, and in this form should be strictly avoided in all cases of gout. In the other case, the wet bandage is placed over the part, which is then covered by a piece of oiled silk or india-rubber cloth, and a flannel wrapper. The wet cloth very soon becomes warm and acts as a fomentation, often proving of great service, relieving the loaded vessels of a part, and allaying pain.

"The sitting-bath, shower-bath, and general douche, are seldom necessary or proper in gouty cases, but the local douche is often extremely useful.

"The quantity of cold water taken internally I should be disposed to leave entirely to the instinct of the patient, rather encouraging him, however, to drink freely whenever he felt disposed to do so, with the view of dissolving or diluting the saline or other injurious matters which exist in the blood in gouty cases, and then carrying them off by the kidneys and skin. When so much water is taken that it begins to be discharged from the mucous membrane of the intestines, it is time to check the quantity taken; the object being to promote free excretions without the derangement of the excreting organs. Thus, diarrhœa when it comes on, goes off spontaneously on the supply of water being diminished.

"Now the bath, the douche, the wet sheet, and the wet bandage, the diet, the draughts of cold water, the exercise, the friction, can all be carried on at the house of the patient under competent medical guidance, as well and often more conveniently than in any hydropathic establishment. All that is wanting to secure their equal efficacy is good will on the part of the patient, his understanding of the principles upon which the different methods are used, pure air, cheerful society, absence from all domestic troubles or cares, and anxieties of all kinds. That all this may be as readily obtained at home by our wealthier classes as in any hydropathic establishment, and even much more so, is so evident that it scarcely requires remark."

The remarks upon the medicinal treatment of gout, like those upon the hygienic treatment, are very excellent. Bleeding, purging, and all lowering measures are objected to. Diluents, and hot air and hot vapor baths are trusted to for procuring perspiration. Iodide of potassium is preferred to all chemical solvents.

"But of all chemical solvents, I am disposed to regard the iodide of potassium as the most useful, as it has so great a solvent power on the lithate of soda, which is the most common impurity in the blood of gouty patients. A concentrated solution of the iodide dissolves the lithate of soda very readily out of the body, and to a much greater extent when the lithate is recently prepared and the solution is warm, but it has very little power of dissolving pure lithic acid. I have given it very extensively for the last thirteen years in almost all forms of gout, except during the acute attack, and in almost every case with the most encouraging results. I have tried it in doses, from eight grains three times a day, to one grain daily in divided doses. I have had patients who have continued the latter small dose for several months, and after carefully watching the effects of discontinuing its use and returning to it, I have been convinced that the improvement in health which accompanied and followed its use was really connected with, or dependent on the use of even so small a quantity."

Colchicum is considered to be the specific which alone claims notice; and the tincture of the flowers is preferred to any other preparation, as less likely to cause sickness, depression, or purging. In this preference he follows Dr. Jones, physician to the late Duke of York (who first suggested the formula), and Sir James Clark. The dose given is small—10 minims three to six times a day, according to the urgency of the symptoms. Often a single drop is given with a grain of iodide of potassium, and repeated three or four times a day; this treatment is continued for several months, special symptoms being in all cases met by special means.

The last chapter, which is on the treatment of joints stiffened by gouty deposits, is the most important in the book, for in it it is maintained that this condition is readily curable by a judicious association of general with local treatment. Here again Mr. Wells exhibits his eclectic disposition. He has already borrowed a leaf from Hydropaths, and now he borrows another from their rivals the Kinesitherapists (*v. Abstract*, vol. XVI). Speaking on this subject he says:—

"I cannot direct attention too strongly to the efficacy of the combined effects of friction, percussion, vibration, and rotation, with the use of iodine ointment or baths, or the nitro-muriatic acid bath, provided an experienced rubber be employed, and the system be pursued with perseverance during a continuance of suitable constitutional treatment. The results frequently exceed all reasonable expectation. I have seen ankle joints, apparently perfectly stiff, which had lost all their natural appearance from swelling and thickening, and which had not been moved for many months, acquire nearly a normal shape, become diminished three inches or more in circumference, and admit of tolerably free motion in from six weeks to three months. I have seen patients who have been quite unable to walk without crutches, owing to this stiffness of the knee and ankles, put them aside and walk with a stick, which has also become unnecessary at last, and the former cripple has astonished all his friends by walking and riding as freely as ever or nearly so,—and I am convinced that equally favorable results might be very frequently attained if the treatment I have recommended were more generally followed."

Epilepsy, and other affections of the Nervous System which are marked by tremor, convulsion, or spasm. By CHARLES BLAND RADCLIFFE, M.D., L.R.C.P., Assistant-Physician to the Westminster Hospital. (London, Churchill, 1854, 8vo., pp. 144.)

The object of this work is to show that the several diseases which are mentioned in the title are always due to the *want* of that *stimulation* which naturally belongs to the living muscle, and that they are to be cured, if cured at all, by *stimulants*. In carrying out this object, the earlier pages are occupied with a sketch of the arguments by which, four years ago, the author endeavored to show that muscular contraction, physiologically considered, is a *passive* phenomenon resulting from unresisted molecular attraction upon the *withdrawal* of the *stimulation* arising from the presence of nervous influence, blood, electricity, light, heat, or any other agency, physical or vital, belonging to the muscle.

I. In the preliminary considerations respecting the physiology of the subject, muscular contraction is examined as manifested in ordinary muscle, in the coats of vessels, and in the heart.

1. On the following grounds (among others) it is argued that the contraction which is manifested in ordinary muscle cannot be regarded as the result of any kind of stimulation.

An involuntary muscle is more prone to contract than a voluntary muscle, and yet, judging by the comparative fewness and smallness of its nerves, it is far less acted upon by nervous energy.

An involuntary muscle is more prone to contract than a voluntary muscle, and yet the voluntary muscle receives an infinitely greater supply of blood. The muscles of a hibernating animal are more prone to contract during the hibernating than during the active state, and yet the circulation at this time is so low as to be barely consistent with life. The muscles of a reptile are more prone to contract than the muscles of a mammal, and yet these muscles are distinguished chiefly by their paleness, that is, by their want of blood. Even *rigor mortis* may be relaxed by the injection of warm blood.

The investigations of MM. Dubois Reymond and Matteucci are equally opposed to the idea that muscular contraction is stimulated by electricity. These investigations show: That there is a current of natural electricity in a muscle when at rest. That the evidences of this current *disappear* during contraction. That contraction is immediately provoked by the passage of a current of artificial electricity when this current opposes and neutralizes the natural current; but that contraction is not provoked by the artificial current when this current coincides with and intensifies the natural current, until the circuit is broken and the artificial current suspended.

Nor is it by any means certain that muscular contraction is stimulated by contact. Instead of exciting the stomach to contract, the food accumulates, and the stomach expands, until the appetite is satisfied, and contraction happens when the stimulus connected with the molecular changes of digestion is at an end. Instead of exciting the uterus to contract, the germ increases in size and the womb expands proportionately, and contraction happens when (apparently) the stimulus of increasing growth is at an end. It is not even certain that a needle stimulates contraction. The muscle does not always contract under these circumstances; and when it does, the contraction may possibly be due to the discharge of the electricity previously present in the muscle. The experiments of M. Dubois Reymond prove the existence of such a discharge; and the analogy between the structure of muscle and of the electrical organ of the torpedo, and between the circumstances attending the production of contraction on the one hand, and of discharge on the other, are in favor of this supposition. The facts, moreover, which have just been mentioned respecting the action of nervous influence, blood, and electricity, are opposed to the idea that the contraction is stimulated by the needle.

Similarly with regard to other agencies. Cold, which is the *reization* of heat, and not heat, favors contraction. Darkness, not light, favors contraction in the irritable cushions of the sensitive plant; and the same may be said of the iris, for it is

more easy to suppose that the iris expands under the stimulus of light, and that the pupil is closed in this manner, than it is drawn out by the contraction of sphincter fibres, which have no existence. This explanation is supported by the authority of Buchât; it equally accounts for the phenomena; and it harmonizes with the known influence of light upon the sensitive plant. Again, carbonic acid, not oxygen, favors contraction in the muscular fibres of the air-passages. Oxygen, indeed, seems to provoke the very opposite of contraction, for under its influence the air-passages dilate and fill with air. Again, other non-stimulating agencies, such as opium or strychnia, favor contraction; and other stimulating agencies, such as alcohol or ether, oppose contraction.

It appears, therefore, that muscular contraction as manifested in ordinary muscle is due to the withdrawal of the vital or physical stimulation which was previously present in the muscle, and not to the impartation of any new stimulation.

It further appears that there is no reason why this contraction may not be due to common molecular attraction—that is, to the law of gravitation. It is, indeed, quite possible that the *semi-gaseous* constitution of the muscle may allow its particles to recede or approach to a much greater degree under the presence or absence of heat or any other stimulus, than is allowed by the physical constitution of a metal or any fixed solid. It is quite possible that this should be the case, for so unstable are the affinities of the muscular particles, that, for the most part, these particles resolve themselves into gases immediately after death.

2. A similar conclusion arises from a consideration of muscular contraction as manifested in the coats of vessels.

“Joy flushes the skin and fear blanches it; in other words, the superficial capillaries expand when the nervous energy is exuberant, and shrink when it is deficient. When the blood is rich and stimulating, as in plethora, the vessels are red and full; when it is poor and watery, as in anæmia, they are shrunk and empty.” For the same reasons, if the hand be held to the fire it becomes flushed; if exposed to cold it becomes pale. These phenomena appear to be utterly inconsistent with the idea that the muscular contraction of the vessel is caused by the stimulation of nervous influence, or blood, or heat; and others are not less so.

Arguing from the remarkable expansion which is caused by heat, in the *dartos* and in the ordinary subcutaneous cellular web, it is supposed, moreover, that the heat and other stimuli acting upon the vessels must cause a greater degree of expansion in the coats of the vessel (which contain a good deal of cellular tissue) than in the fluid contents of the vessel (which consist chiefly of water); that vacua may thus be left between the coats and the contents, and that consequently movements may result from the blood passing to fill these vacua, which movements are altogether independent of the heart. If, therefore, the hand be held to the fire, the vacua thus resulting from the excess of expansion in the vessels must necessitate a flow of blood to the part.

3. In the heart, also, the muscular contraction is supposed to be equally inexplicable on the supposition that it is the result of stimulation.

“The fact that the heart remains distended with blood during a full half of the time occupied in its rhythm, is a strong argument that the blood does not excite the ventricular systole. The histories of plethora and anæmia are to the same effect. In plethora the pulse is full and slow; in anæmia, empty and quick. In the one case the heart fills to distension with rich blood, and the systole is deferred; in the other case, the heart takes in a small quantity of poor, unstimulating blood, and expels it immediately. The facts are the very opposites of what they ought to be if the blood excited contraction, for then there should be a small quick pulse in plethora, and a full slow pulse in anæmia. But they are just what they ought to be, if the blood provokes the heart to dilatation by its stimulant properties, for then the heart ought to dilate most, and the dilatation to continue longest, when the blood is rich and warm, as in plethora.”

“Arguing from what takes place when the nervous energy is more or less depressed, as during the operation of fear, it may also be presumed that nervous influence favors the ventricular diastole and not its systole. Under these circumstances, the heart beats hastily, and yet little blood is propelled out of it.

The beats are perhaps doubled, and yet the skin is cold and pale. Now, under ordinary circumstances, the double number of beats would propel a double quantity of blood into the vessels, and the skin would be hot and red, instead of cold and pale; and hence the probability that in this apparently anomalous condition of a rapid pulse and a pale skin, which attends upon fear, the chambers of the heart are diminished by the contraction of the walls, and that for this cause they receive and propel less blood than usual."

Upon attending more particularly to the phenomena of the heart's action, it appears still more improbable that the ventricular systole is caused by stimulation of any kind—and of the blood particularly. At the systole the oxygenated arterial blood rushes through the coronary arteries into the coats of the heart; there it remains until it has given up its arterial and stimulating properties; and then the systole returns. The seeming probability is, therefore, that the diastole is stimulated by the blood, and not the systole; and this probability is increased by the fact, that it affords a clue to the rhythm of the heart.

"Rushing into the walls of the heart at the ventricular systole, the arterial blood becomes one cause of the diastole, partly by the force of the ventricular systole, and partly by the stimulant properties of the blood itself. At the diastole the arterial jet is cut off, and, the blood having given up some of its stimulant properties, the cause of the diastole is suspended, and the systole returns. The systole supplies anew the causes of the diastole, and the diastole, by interrupting these causes, brings back the systole, which restores the diastole; and thus systole gives rise to diastole, and diastole to systole, as long as the heart retains its natural dilatability, and the blood its dilating energy." It even appears to follow that the auricular systole must be contemporaneous with the ventricular diastole, for there is good reason to believe that this systole is more the effect of the *filling-in* of the auricular walls upon the sudden withdrawal of blood by the ventricular diastole, than of any special contraction in the auricle itself. There is reason to believe this, partly from the absence of valves at the mouths of the veins opening into the auricles, and partly from the structure of the coats of the auricles. If the auricles had had to contract primarily, it may fairly be assumed that there would have been valves to prevent the reflux of blood into the veins; if they had had to contract rapidly, it may be assumed with equal fairness that the muscular structure would have been like that of the ventricle or any other muscle which has to contract rapidly, and not—as it is—like that of intestine or other muscle which contracts sluggishly. In this way there is no difficulty in accounting for the movements of the auricles; for the diastole (which is virtually contemporaneous with the ventricular diastole) is caused partly from the same cause—the rush of blood from the coronary arteries, and partly by the onward current which sets in from the veins; and, on the other hand, the systole is mainly due to the collapse caused by the passage of blood into the ventricle at the ventricular diastole. Hence the rhythm of the heart receives a physical explanation, if the blood be supposed to stimulate the reverse of contraction.

There is reason also to believe that the nervous influence co-operates with the blood in the production of this rhythm; but the illustration given must suffice.

A similar conclusion is supposed to result from an inspection of the movements of a heart, or of a fragment of a heart, after removal from the body. Under these circumstances the air seems to take the place of the blood. If air be withheld, the rhythm ceases, but not because there is no contraction. If the amount of oxygen be increased the rapidity of the rhythm is increased. Like the blood, the air seems to resolve the contracted state of the vessels by virtue of the heat proceeding from a combination of its oxygen with the vascular tissues, and contraction happens when the air has given up the oxygen which provides for the continuance of the heat. In this way the vessels open and become filled with stimulant air, and then contract and empty themselves when that air has lost its stimulant properties; and thus they go on alternately expanding and contracting, so long as the heart, or its fragment, retain their excitability, and are acted upon by air. Under these circumstances, indeed, the air acts in inducing the rhythm, as it does naturally upon the muscles of the air-passages, and the air is alternately received into and expelled from the open vessels of the de-

tached heart for the same reason that it is alternately received into and expelled from the air-tubes.

It would thus appear that the contraction of ordinary muscles, of the coats of vessels, and of the heart, is everywhere manifested under the same circumstances, and that this contraction is due to the unresisted molecular attraction of the muscle upon the suspension of that stimulation which is synonymous with life. In this way muscular contraction, instead of being a phenomenon peculiar to vitality, is an effect of this grand law of gravitation. In this way, the three grand and hitherto inexplicable phenomena of physiology—muscular contraction, the movement of the blood in vessels independently of the heart, and the action of the heart—receive a single and physical explanation.

II.—The pathology of these disorders, in which muscular contraction is in excess—"epilepsy and other affections of the nervous system which are marked by tremor, convulsion, or spasm," admits of being explained in far fewer words than the physiological premises, though the statement of all the facts upon which the pathology is based occupies a much wider space in the volume itself. The topics successively considered are epilepsy, affections allied to epilepsy, periodicity, and treatment.

1.—In epilepsy, the condition of the circulation is habitually one of great depression. The true, active, plethora of the butcher is never met with, and any vascular fulness, if such exists, is mere venous congestion. This depression is aggravated before the fit; and during the fit the condition is either one of asphyxia or syncope. If inflammation, or true fever, chance to be developed, so surely are the convulsions of epilepsy banished for the time. These are the conclusions which are borne out by the simple facts in the case.

With this condition of the circulation an active condition of the nervous system is impossible, and this is in accordance with the actual symptoms. Sense and intellect are completely obliterated during the fit, and at all times they are under a cloud, or if the torpor is occasionally broken by an attack of mania, the patient is for the time relieved from his fits.

The condition of the muscles is always wanting in tone.

The several causes inducing the fits are always exhausting, and not exciting, in their character.

In a word, there is every reason to believe that the muscles of the epileptic contract excessively (as might be expected from the premises), because they are less stimulated than they ought to be, and not for a contrary reason.

2. In affections allied to epilepsy, whether these be marked by tremor, convulsion, or spasm, the same conclusions are arrived at.

The condition of the circulation during the paroxysm is still one of asphyxia or syncope, or one tending to asphyxia or syncope. Inflammation, or true fever are utterly uncongenial with any form of tremor, convulsion, or spasm. The rigor precedes fever and again succeeds it as subsultus, but it never accompanies fever. Convulsion often takes the place of rigor or subsultus, but it never occurs in the immediate hot stage. The spasm of whooping-cough disappears if pneumonia or bronchitis are developed, and returns again when the inflammation over. In every instance, the rule is that the muscular disturbance is coincident with the opposite of vascular excitement—asphyxia, or syncope, or a condition approaching thereunto.

As in epilepsy this condition necessitates a corresponding inaction in the functions of the nervous system, and this necessity is fully corroborated by the symptoms during life and the appearances after death. If there has been inflammation of the brain or spinal cord, the tremor, convulsion, or spasm is found to be before or after, but never during this inflammation. The condition of the muscles is also wanting in tone, and the causes inducing the fits are never of an exciting character.

Everything indeed tends to support the previous conclusions, and to show that in affections allied to epilepsy, as in epilepsy itself, and in ordinary muscular contraction, the muscles contract, not because they are stimulated, but simply because they are not stimulated. The physiology explains the pathology, pathology confirms the physiology.

3. The phenomena of periodicity are also thought to furnish evidence of the same kind. The plant exhibits plainer and more numerous evidences

dicity than the animal, and it does this it is argued because it has less of that innate life which enables the animal to be partially independent of the vivifying influences of the heavenly bodies. If man exhibits more evidences of periodicity than he ought to do, it follows therefore that he has lost some of that innate life which is the badge of distinction between him and the plant; and hence the periodicity of epilepsy or of any cognate disorder, is merely a proof that the epileptic or his congener is less vitalized—less stimulated than he ought to be.

4. If, then, these diseases depend upon the want of that stimulation which naturally belongs to the muscles, it follows as a necessary consequence—that bleeding, purging, and all lowering measures are not calculated to do good, and that the only hopes of benefit must be placed, not upon tonics merely, but upon stimulants. And this conclusion is that which is verified by the experience of the author.

This is a sketch of some of the arguments from which the conclusions of the work under notice are drawn.

Clinical Lectures on Pulmonary Consumption. By THEOPHILUS THOMPSON, M.D. F.R.S., Physician to the Brompton Hospital for Consumption and Diseases of the Chest, &c. (8vo. London, Churchill, 1854, pp. 205.)

These lectures form a valuable addition to the literature of the subject of which they treat. Among much that is good and familiar, they contain, for instance, much additional information respecting the state of the blood in phthisis, the "gingival streak," the effect of posture upon the pulse, the value of "wavy inspiration" as a diagnostic sign in phthisis, and the relative value of animal and vegetable oils in the treatment of this disorder.

Dr. Thompson thinks there is reason to believe that, in blood removed from the body, the disks became more quickly corrugated and stelliform in consumption than in health, and most quickly in those persons in whom the signs of consumption are most marked. He thinks he can detect this disposition in the blood before the development of any local signs of tuberculosis.

Dr. Thompson lays great stress upon the existence in phthisis of the "gingival margin," to which he was the first to direct attention. In the most decided cases, this margin is of a vermilion tint, inclining to lake, and forming a marked contrast to the paleness of the rest of the gums. It is usually confined to the region of the incisors, but sometimes it extends along the whole line of teeth, becoming narrower and fainter as it proceeds backwards. To afford a means of forming an opinion respecting the importance and significance of this particular symptom, a table is given of the appearance of the gums in 47 cases then in the hospital. Referring to this table, the author says,—

"In the first division, containing the particulars of twenty-six men, you observe that only six are free from the margin, and that the twenty who present the margin have also distinct symptoms of consumption. In five of those without the line, there is also freedom from other consumptive symptoms; the diseases in these patients being respectively emphysema of the lungs, hydatid cyst, diseased liver, pleurisy, and diseased heart. Only one of the phthisical males, a boy, aged twelve, has unstreaked gums; and although the margin is occasionally observable in children, it appears to me, as far as I have yet noticed, to be more frequently absent in them than in adults. It is fair to mention, that in about six of the male patients, chiefly those with the disease in the first stage, the streak is so slightly marked as to render its presence almost a matter of question. I may add that in the comfortable classes of society, under favorable circumstances of regimen, the mark is less constant than in my hospital patients; but with every deduction on the ground of these considerations, I am satisfied of its existence in a very large proportion of cases.

"The exceptions amongst the female patients are far more frequent, as is apparent from the table on the preceding page.

"You will see that of twenty-one phthisical women there are no less than eight without the margin, and it is remarkable that in each of these cases there is cavernous cough or other undoubted evidence of the existence of vomica. In

two of them, namely, J. B. and M. A. M., there is cracked metal sound on percussion. On the other hand, among those exhibiting the streak, in six the disease is in the first stage, not having proceeded to softening. It is also worthy of note that, in seven of the men in whom the mark is observable, the disease has not advanced beyond the first stage."

* * * * *

"When the gingival margin is strongly defined, it is not uncommon to find hypertrophy of the border of the gum, suggesting an analogy to the tightened and deep-colored skin around the border of the nails, attending even slight degrees of clubbing of the fingers. Of thirty-eight men lately examined in reference to this analogy, twenty-three had the fingers more or less clubbed, and none in whom this appearance was obvious were free from the margin on the gums. Of thirty-eight women, twenty-two had clubbed fingers, and of these twenty-two, only one was without the streak on the gums. The altered aspect on the gums would seem to precede any obvious change in the fingers; ten of the thirty-eight men, and ten of the thirty-eight women, having margined gums, but not clubbed fingers.

"In some patients, as in M. M., you have seen the gingival margin deep in color, and more than a line in breadth. Under such circumstances, patches of a similar color are occasionally observed in the mucous membrane, at a short distance from the lower incisors, particularly where the mucous membrane of the lip is reflected on the gums, sometimes also about the roof of the mouth and inside of the cheeks. In such instances, the disease is usually in the third stage, and the patient's strength rapidly failing, a result to which the co-existence of diarrhœa often contributes. Under more favorable circumstances, with the assistance of soothing and refrigerant remedies, these patches may disappear, and the margin become fainter; but, whether in the early manifestations or the more confirmed conditions, I have never yet observed the line entirely to disappear. In addition to the cases which I have arranged on the table, and recorded in this lecture, I have examined some hundred patients with special reference to this appearance, and the result is in harmony with the deductions to which the tabular view would conduct us."

* * * * *

"It is not improbable that characteristic markings may be discovered in the same situation in various other diseases, but materially different from the streak or border described in this communication. M. Fredericq, whose remarks* induced me to pursue this investigation, states that 'a broad, dirty, livid streak on the gums, opposite the lower incisors, and sometimes the upper also, is common in amenorrhœa and abdominal affections, and a white streak in the scrofulous.' He is of opinion that 'a somewhat narrower streak occurs in phthisis, and constitutes one of the earliest signs, often coming on about the same period as the cough, the color of the streak being brick-red in inflammatory phthisis, but bluish in the less active form, especially in pneumorrhagia.' Some of these statements are not in perfect harmony with my own observations: for as regards the margin when distinctly assuming the character which I have here described, there seems to be no evidence of its occurrence in other diseases; and I have taken some pains, in hospitals and elsewhere, with a view to ascertain whether a similar margin was present in other instances of chronic disease.

"Hitherto, whenever any patient has exhibited the line *clearly defined*, whatever may have been the prominent complaint, a careful examination of the chest has led to the detection of phthisical disease."

* * * * *

"In reference to diagnosis, there is reason to believe,—

"1st. That the absence of the streak in men affected with inconclusive symptoms of consumption may incline you to a favorable interpretation of any such suspicious indications, but that in women rather less weight is to be attributed to this negative sign.

"2dly. That the presence of the sign in women is almost conclusive evidence of the existence of the tubercular element in the blood.

* *Medical Quarterly Review* for 1850, p. 539.

"When in either sex it coincides with a pulse not materially altered in frequency by change from the sitting to the standing posture, the presence of phthisis may with high probability be assumed, even before having recourse to auscultation.

"The degree in which this appearance exists is not without importance in relation to treatment. When, for instance, the margin is considerable in extent and intensity, it is often advantageous to administer refrigerant remedies, especially salines combined with prussic acid, as a preliminary to the employment of cod-liver oil, or any tonic medicines or stimulating diet; and when, as often occurs, diarrhoea accompanies this condition, trisnitate of bismuth is specially useful. There is reason to believe that the presence of the streak, in some instances, indicates the existence of a tubercular taint in the constitution, before any signs of such a condition can be detected in the lungs. When the streak is absent, whatever be the pectoral symptoms, we have at least one ground for assuming that the constitution is not extensively involved, and we may hope to be able, by the administration of suitable remedies, to promote healthy nutrition, and avert or retard the establishment of phthisis."

Another point upon which Dr. Thompson dwells at considerable length, is the very trifling influence of change of posture upon the pulse in phthisis. Instead of there being, as in health, a considerable and progressive increase in the rapidity of the pulse as a person changes from the recumbent to the sitting, and from the sitting to the erect postures, there is scarcely any change in the phthical person, particularly in the evening. This is a very curious, and apparently anomalous fact, a satisfactory explanation of which has yet to be found.

Dr. Thompson investigates at some length the significance of that modification of the respiratory sound which he calls *wavy inspiration*, and which is called "*inspiration entrecoupée*," by Laennec, "*inspiration saccadée*," by Fournet, and "*jerked inspiration*," by some English writers. Speaking of this phenomenon, he says,—

"I was once accustomed to regard the sign which I have now brought under your observation as a proof that phthisis had actually commenced; but more extended opportunities of watching patients in whom it has continued for many years without becoming complicated with any other indication of disease, have induced me to modify that opinion. It is true that I have certainly often observed wavy inspiration at one part of the chest when pectoriloquy or cavernous respiration could be elsewhere detected, or when other indications, local or general, of advanced consumption have been present; and in a great number of instances the wavy inspiration has been superseded by the occurrence of bronchial respiration, dulness on percussion, dry crepitation (crackling), or other more or less decided evidences of the establishment of phthisis; but, in a still greater proportion of cases it has continued, for a considerable period, to be the only important evidence of deviation from the natural state. Often indeed I have watched the symptom for years without observing any transition to serious disease. Of 105 cases, carefully recorded in the course of an investigation which I formerly made regarding this symptom, thirty-two afforded grounds for suspecting tubercular disease; such, for example, as dulness on percussion, or prolonged expiratory murmur. In twenty-two hæmoptysis had occurred. In three, a murmur could be heard over the pulmonary artery. But, of the remainder, many were not affected even with cough, and their complaints were usually expressed in general terms, as of 'delicate health,' 'easy fatigue;' or, if they made any reference to the chest, it was seldom of anything beyond slight oppression of respiration, or of 'seeming to breathe through thin cambric.' It is therefore reasonable to conclude that, if this form of interrupted inspiration be an indication of tubercular disease, it is the earliest local sign with which we are acquainted. The question, however, naturally occurs, can this symptom depend on mere functional disturbance, and disappear, leaving the subject of it in apparent health? Having devoted some attention to this inquiry, I must acknowledge that although wavy inspiration, when dependent on pleurisy, bronchial affection, or rheumatism, may disappear, I have not satisfied myself of its removal (unless superseded by some more serious symptoms) in any instance unconnected with the conditions which I have specified."

Under the head of treatment much interesting matter might be found, and more evidence in favor of cod-liver oil, if necessary. What is most interesting, however, bears upon the relative value of vegetable oils. It appears that the author has made a series of experiments with cocoa-nut oil, which have satisfied him that this oil possesses medicinal properties similar to those which belong to cod-liver oil. These experiments were performed during the first eight months of last year.

"The results in the first thirty patients to whom I administered it, bear comparison with those obtained in the first thirty-seven patients for whom I prescribed cod-liver oil, chiefly in the year 1845, as related to the Medical Society of London, and briefly described in some of the medical journals. Amongst the patients to whom cocoa-nut oil was given, there were some instances of arrested phthisis, as decided as any I have been accustomed to attribute to the use of cod-liver oil, over which it possesses advantages in reference to economy and palatableness; and it is interesting to remark that its efficacy was experienced by some who had previously taken cod oil uselessly, and by others who had discontinued it on account of nausea."

These experiments are of considerable importance; for, as we take it, cod-liver oil is only beneficial because it is *an* oil. Indeed, in process of time, we have little doubt that the whole matter will resolve itself into a question of cookery rather than pharmacy, and that it will be sufficient to enjoin upon the patients in question the necessity of taking a more than usual supply of fat bacon and butter. We know of several cases which warrant this expectation.

Dr. Thompson concludes with some very excellent remarks upon a strange proposal which has emanated from an American writer, and which—more strangely still—has been received without objection by several persons on both sides of the Atlantic,—viz., to promote euthanasia by means of chloroform; and we cannot do better than conclude this notice of a book with which we have been much pleased throughout, than by transcribing these remarks:—

"It can scarcely be necessary to say anything to dissuade you from such a practice. At the solemn period of transition to another state of existence, it cannot be justifiable thus wilfully to suspend the exercise of the intellectual functions. Such a measure might indeed be rebuked by the example of the Empress Maria Theresa, who, when urged in her last moments to destroy by opium the consciousness of pain, replied, 'I would meet my Maker awake;' or I might refer you to a venerable lady, more than ninety years of age, whom I once attended, and who, in answer to my arguments for the desirableness of endeavoring to sustain the circulation with brandy, made answer, 'Let me go home sober;' and thus gracefully passed off the stage of life. Such suggestions, however, will rarely be urged in cases of consumption, the sinking of the powers in this disease being so commonly painless and gradual, sometimes, indeed, not only calm, but cheerful. I remember a young woman, whose physical powers were thus failing, saying, 'Mother, I am going to sleep, and if I do not wake I shall be in heaven.' Her expectation, we may trust, was realized; and thus she glided into rest, not fearing death, because not doubting of heaven, and furnishing an instance in which you would not have been surprised to see depicted on the countenance of the departed more than what the poet fancied, when he wrote of 'the rapture of repose.' Am I passing beyond becoming bounds in suggesting the reflection that, while witnessing such transitions from languor and decay into an undying life, we may ourselves realize the truth that death is not the end of existence;—that it is something grander than human skill defeated;—that, when art can do no more, and friends 'weep at the vestibule as the spirit passes out of doors,' we may win glimpses of brighter scenes, where the cares and passions of this lower life shall cease to engross, and the germs of opening science shall expand into the fulness of infinite truth?"

1. *The Diseases of the Heart and Aorta.* By WILLIAM STOKES, M.D., Regius Professor of Physic in the University of Dublin. (8vo., Dublin, Hodges and Smith, 1854; pp. 698.)
2. *A Treatise on Diseases of the Heart.* By O'B. BELLINGHAM, M.D., one of the Medical Officers of St. Vincent's Hospital. (8vo., Dublin, Fannin and Co. 1853; pp. 252, Part I.)

1. Dr. Stokes's work is one of no ordinary importance. It is a work which will be appreciated by every one, and most of all by him who is best acquainted with the subject of which it treats. In the fullest and best sense of the word, it is eminently practical.

In reading this work, we have been struck with so many points that we scarcely know what to notice. The cases are especially remarkable for their number and their richness. They are often told in such a way as to be scarcely less valuable than an actual sight of the patient, and of Dr. Stokes standing and speaking at the bedside. Someway, also, these cases, and the general account of the diseases to which they belong, are made to combine in giving a simple and clear idea to the reader of all those points that are essential for him to know—someway, we say, for it must be confessed that there is a want of order (indicated among other things in the necessity of an appendix to every chapter) which detracts somewhat from the artistic merits of the work. This, however, is a minor matter, which will, doubtless, be corrected in a second edition.

The next great feature of importance is the decided opposition to that sangrado-ism which has so often and so long made the help of the physician a curse rather than a blessing; and to this we would wish to direct especial attention. Dr. Stokes is speaking of the treatment of pericarditis, but his remarks apply to inflammation of the heart generally.

"It is important, further, to observe that, although, as above stated, the principles of treatment of the more violent forms are similar to those which guide us in acute sthenic pleurisy, yet the analogy only holds good up to a certain point, for it will be found that the period at which such treatment ceases to be advantageous or safe arrives much sooner in pericarditis than in pleurisy. In both diseases, it is true, we have to contend with a severe inflammation of a serous membrane, but in pericarditis a more important and complicated apparatus is engaged, giving rise to dangers foreign to the case of pleurisy. The period soon arrives when, either from inflammation, paralysis, or the combination of both, the heart itself is weakened, and the patient is in danger of death from syncope, so that persistence in the reducing treatment may be followed by fatal results. The conclusion is obvious, that, whatever may have been the necessity for depletion at the outset of the disease, we cannot press it in pericarditis to the same degree as in pleurisy.

In regulating our practice we derive great advantage from physical examination. So long as the impulse of the heart continues vigorous, its sounds remaining without signs of progressive diminution, and the patient's strength unimpaired, the dangers in question may be considered as remote; yet here it is not to be forgotten that the weakness of the heart, like that of the diaphragm and intercostals in pleurisy, *may supervene in a sudden manner*. In pleurisy such an accident is of comparatively slight importance, but in pericarditis it is one of great danger, threatening paralysis of an organ which is the fountain of life.

"It is my conviction that the fatal result of some cases of pericarditis is mainly attributable to the perseverance, beyond the proper time, in the antiphlogistic treatment: the practitioner looking at the disease merely as a case of serous inflammation, and forgetting not only the results of irritation on muscular fibre, but the effect of great losses of blood in producing reaction."

And again—

"On the use of stimulants in pericarditis little or no information has been given by authors, yet they are imperatively called for. I am convinced that cases are often lost from want of stimulation at the proper time. These considerations have passed strongly on my mind since I made my observations on the state of the heart in typhus fever; and it is certain that in every case of dan-

gerous pericarditis, after the first violence of the disease has been subdued, we should be anxiously on the watch for the moment when the weakened heart requires to be supported and invigorated.

"The following circumstances should lead us to diagnosticate a weakened condition of the organ in pericarditis:

"1. The feebleness, intermission, and irregularity of the pulse, especially when these characters have not existed from the commencement of the attack, and again when the feebleness of the pulse coincides with a diminution or loss of the impulse.

"2. The appearance of turgescence of the jugular veins, with or without pulsation.

"3. The progressive change in the character of the sounds of the heart, more especially if it is the first sound that becomes feeble or extinct. This is important, for, if the second sound remains, we may conclude that the want of the first is owing to debility of the ventricles, rather than to any intervening liquid effusion.

"4. The evidence of a weakened circulation, drawn from the symptoms in general. Among these we enumerate pallor, coldness of the surface, œdema of the extremities, and the tendency to faint upon exertion, or even in a state of repose.

"It may be laid down as a general principle that there is no local inflammation whatever, the mere existence of which should prevent the use of wine, if circumstances require it. In two cases especially, namely, cerebritis and pericarditis, we find the greatest timidity in practice with respect to the use of wine. Yet, even in the first case it may be required, and in the second its employment is imperative, when, as too often happens, excessive depletion has been resorted to. Again, if the signs of muscular weakness, such as we have indicated, have appeared; if there be evidence that the heart, previous to the attack, was in a weakened state; and lastly, when a collapsed or typhoid condition of the system exists, we must give wine, quite irrespective of the physical condition of the heart. This may be done safely, and with great advantage."

Passing on, and passing over many points of importance, we would next call attention to the very important remarks upon the mistake, which is frequently committed of alarming a patient by improper openness, and, more than all, of mistaking a chronic and stationary heart disease for one which is acute and progressive, and of instituting an antiphlogistic treatment on this supposition.

"Physicians who cannot help thinking aloud, or who, less excusably, are fond of exhibiting their diagnostic tact to the patient, are but too apt to commit these errors. The greatest evils now result, for the chief safeguard of the patient is at once removed, and his attention is painfully directed to the state of his heart, than which there could be nothing better calculated to hasten its disease. But this is not all: a long-existing change, which we might compare to the cicatrix of a wound, is taken for a recent and progressive disease. All the habits of the patient are altered by peremptory mandates: he is debarred the use of wine; he is placed on a low diet, and all action, exercise, and pleasurable excitement are forbidden. The discoverer of the disease, too, must now attempt to cure it. Local and general depletion, mercury, digitalis, prussic acid, blisters and issues, are summoned to lend their aid in attempting an impossibility, and in doing that which ought not to be done, namely, weakening the heart, and exhausting the general nervous energy. Under such circumstances, and with the fear of sudden death continually before the mind, the results are just what might be expected: the action of the heart becomes enfeebled and irregular; its cavities dilate with or without hypertrophy; and dropsy and visceral congestion close the scene. I know of no case more aptly illustrative of the evils of the *nimia diligentia medici*.

"The practical rule obviously should be, that when we accidentally discover a valvular murmur in the heart of a patient, whose previous health had been good, and who did not present any of the symptoms of disease of the heart, we should be slow indeed in communicating the fact to any one, least of all to the patient himself. We must, without exciting his apprehensions, seek to discover whether this murmur be the result of some long-previous illness, or whether it be of recent origin: and if it appears that the patient, during the past seven or

ten years, had suffered from rheumatic fever, with or without the symptoms of cardiac. we may with great probability conclude, that the disease originated on the occurrence of that affection. We must then examine into the habits of the individual during the period in question, and be very slow in advising any alteration in them, for common sense must teach us, that any system of living which had preserved the muscular portions of the heart from lesion, while the functions of the organ remained in a state of health, and which had not caused any advance in the valvular affection, should not be lightly departed from. And, above all, we must avoid the unpardonable error of treating a fixed and incurable organic change as a recent and progressive disorganization.

These observations may be illustrated by an admirable case taken from another page.

"It is now many years since I was consulted by a gentleman under the following circumstances. The patient after having enjoyed excellent health for several years, was attacked by an influenza, then epidemic, and in consequence of considerable bronchial irritation, consulted a physician. He did not complain of any symptoms referable to the heart; but his medical attendant, while exploring the chest with a view of determining the amount of bronchitis, discovered a belows-murmur masking the first sound of the heart at the left side. The patient was then informed that he labored under disease of the valves of his heart, and the diagnosis was confirmed in consultation with some eminent members of the faculty. All his habits were immediately changed; he was accustomed to active exercise on horseback and on foot, and was in the habit of drinking wine freely but all exercise was forbidden except slow walking on a level surface, while he was put on an extremely spare diet, and complete abstinence from fermented liquors was enjoined. This necessary medical treatment, and the apprehension of sudden death so unexpectedly brought before the mind of an ardent young man engaged in an active profession, produced, as might have been anticipated, an extremely depressed condition of mind and body. It was under these circumstances that I first saw him. He was of a full habit; the pulse perfectly regular and of fair strength; and the heart's action tranquil. He assured me that he had never felt any palpitation or uneasiness about the heart until after the period when this murmur had been discovered, in other words, until after the time at which he had been forbidden to use stimulants or active exertion. I found a distinct, but not rough murmur with the first sound of the heart, confined to the region of the mitral valve, the lungs were healthy, and it appeared that he never had an attack of pulmonary congestion or irritation except that one for which he consulted the physician. Taking into account the previous good health and habits of this patient, and the fact that no symptoms of pericarditis or endocarditis had been observed in connection with the attack of influenza, and also that his general health, and even the condition of his heart, appeared to have suffered by the change in his mode of living,—I suspected that this murmur was indicative of some very old, passive, and stationary valvular disease, and this suspicion was converted almost into a certainty by the patient informing me that seven or eight years previously he had suffered from a severe attack of rheumatic gout, which affected many of the joints. There could then be hardly a doubt that the murmur was established at that time, but that the diseased action had not been progressive, the valves had been mechanically altered but not to such a degree as to interfere materially with their functions. So that we had in this case to deal with the cicatrix of a wound, as it were, rather than with the wound itself. I explained these views to the patient, and endeavored to reassure him as much as possible. He was advised not to give up his profession, and was allowed to use stimulants in moderation. Smoking was forbidden and I directed the patient to return to me within a year. He did so; I found him much improved in appearance and spirits, while the physical signs of the heart remained quite unchanged. I saw this gentleman once annually for several years. On the last occasion but one he had just returned from a shooting excursion in the Highlands of Scotland, which had occupied nearly a month. During this time he was on foot, walking over mountains for eight hours a day, carrying a heavy gun and shot-pouch, and using a liberal allowance of diffusible stimuli,

yet he never experienced any difficulty in respiration, and when I saw him he was in the highest state of health and spirits. It is now more than a year since I have seen this gentleman; he was then in perfect health, although the murmur continued unchanged.

"That this individual has had a continued mitral murmur for upwards of twelve years, there cannot be any reasonable doubt, and the case is strongly illustrative of this principle in practice.—that we are not to confound the effects of a disease with the disease itself; and again, that we are not rashly to change the habits of living, as to exercise and the use of stimulants, in a patient who has been the subject of a chronic local disease, if we find that under the regimen in question, local disease has not been progressive, and that the general health has remained unchanged."

Dr. Stokes is of opinion that valvular disease may exist for some time, and yet be latent, its signs becoming developed quite suddenly in the end. This fact, and its most important bearing, is explained in the following quotation:—

"The recent development of the signs of a chronic, long pre-existing disease is a circumstance which should be known to all who are concerned in the medical examinations for life insurance. Thus, it may happen, a life is passed as insurable after a careful examination. The insurance is effected, and yet in a short time the individual exhibits all those signs of morbus cordis which are supposed to indicate chronic disease. He may die of this disease within a few months after the completion of the insurance, and the payment of the sum insured be then contested on the ground that the disease was overlooked. I have known all the signs and symptoms of permanent patency of the aortic valves to occur within a few months after the effectuation of a large insurance, and yet at the period of the medical examination, which was made by one of the best observers in this or any other country, no sign of disease of the heart existed. In the same way I have known the signs of chronic mitral disease become most strongly developed in the course of a few days. These facts are of practical importance, for in the case of a judicial trial, on the ground of the incompetency or neglect of the medical examiner, many professional witnesses would incline to the opinion that the affection had been overlooked rather than that it had become developed in so short a time after the examination. They would be influenced by the opinion that the development of disease and of its symptoms and signs are concurrent, a doctrine which we have seen to be untenable in acute, and, of course, far more so in chronic disease.

"It is not impossible that in some cases physical signs may be developed at so early a period of chronic valvular disease that we may consider these signs as of little less duration than the organic change, but such a case appears to be an exceptional one. And in most instances a long process of progressive disorganization has in all probability been going on before the mechanical conditions of the parts are so altered as to cause distinct physical signs."

The remarks upon dilatation of the heart strikes us as of extreme importance, and particularly those bearing upon transient, paroxysmal dilatation. Dr. Stokes does not regard dilatation of the heart as a simple phenomenon, but as "one of a triple group of local diseases, in which the heart, lungs, and liver appear to be affected." If the heart is dilated and gorged with blood, there is an equivalent dilatation and engorgement, consecutive or concomitant (perhaps compensatory), of the lungs and liver. This dilatation and engorgement as concerns the liver is very curious, and a rule of treatment, which Dr. Stokes deduces from it is very important.

"The hepatic complication is of great importance, and presents some singularly striking phenomena. Without fever or gastro-intestinal inflammation, the liver is observed to enlarge often to such an extent that the tumor may advance below the umbilicus. This augmentation occurs with great rapidity, but is unattended with any signs or symptoms of hepatic inflammation, and it subsides to a greater or less degree when the state of paroxysmal suffering has been subdued. Andral has noticed this singular augmentation of the liver, which is often as remarkable and recognizable as that of the enlargement of the spleen in ague. The tumor is flat, and either painless on pressure or very slightly tender. With each paroxysm of the disease the hepatic tumor seems to gain a

slight permanent increase; but the alternation of its enlargement and diminution, corresponding to each attack of the disease, forces the idea on the mind of the observer that the organ is in an erectile condition.

"One of the most remarkable circumstances in this curious combination of symptoms is the suppression of the renal secretion, and the subsidence of at least the aggravated symptoms of the attack on its restoration. There is no reason whatever to believe that the kidney is the seat of organic disease.

"It is difficult or impossible, in the present state of our anatomical knowledge, to explain the phenomena of this disease. The morbid state of the heart, consisting in its weakness, dilatation, and irregular action, and the permanently enlarged, though indolent condition of the liver, may be taken as the constant characteristics, while the exacerbation of the bronchitis on the one hand, and the suspension of the renal secretion on the other, are the accidents commonly attendant on the paroxysm of the disease. We may suppose that either of these affections, or both of them concurrently, by inducing an accumulation of blood at the right side of the heart, may cause the paroxysm of cardiac suffering, attended by anasarca, owing to the general congestion of the venous system; and, on the other hand, by overloading the *venæ cava hepaticæ*, may induce a passive enlargement of the liver. We may suppose that the repetition of these attacks establishes a permanent hypertrophy of the latter organ, which in its turn becomes an exciting cause of disease, so that the cardiac and hepatic affections are reciprocally cause and effect; and that such is the case appears probable from the history of them in many instances."

Having an eye to the state of the liver, Dr. Stokes places great trust in mercury for the means of relieving the disposition to, and the paroxysm of, dilatation of the heart—mercury, that is to say, in connection with stimulants and tonics.

"The quantity of the remedy which is required, as we might expect, varies in different cases. In some it is requisite to establish ptyalism, while in others the relief of the heart, and the disappearance of the dropsy, are observed after the use of a very mild course, in which little if any of the characteristic action of mercury can be perceived, unless we include diuresis. In other cases it will be necessary to use diuretics following on the mercurial action, and in this way we often observe a singularly abundant secretion of urine, attended by rapid subsidence of the dropsy and visceral oppression. We should use various combinations of the vegetable and saline diuretics; and even digitalis, in connection with diuretics of the tonic and stimulating class, may be employed. The success of diuretics appears to turn upon their being preceded by mercury. I have often, in cases where the patients for former attacks had already used a great deal of mercury, attempted to remove the dropsy by diuretics alone, but have always failed, and yet found that a diuretic which, without the previous administration of mercury, was totally inefficacious, acted vigorously when given after a few days' use of that remedy.

"But the truth is, that in these cases we are not to be over timid in the repetition of mercurial medicines; for there is nothing more remarkable than the power which the patients exhibit of bearing repeated courses of mercury not only without injury, but with extraordinary benefit to their general health. In some, indeed, the state of aggravation of symptoms appear to be kept off for an indefinite period by the continued use of small quantities of the medicine. The patients will improve in flesh, appetite, strength, and appearance. In others, as in a remarkable case which I have lately seen, the repeated use of very slight courses of mercury, at short intervals of time, has preserved the life of the patient for several years, and enabled him to pursue a laborious profession. This gentleman has now had not less than thirty distinct courses of mercury. It is truly his *pabulum vitæ*; and neither in this case, nor in any of the others in which I have seen the treatment pursued, were the injurious effects of mercury ever produced. There has been no unhealthy action on the mouth,—no periostitis, cutaneous eruptions, or tremors.

"It need hardly be observed, that a time at last arrives when the system no longer responds to the action of medicine, and the patient sinks with dropsy and pulmonary congestion.

"During this treatment, and especially when free diuresis is established, it is

necessary that wine or some other diffusible stimulus should be carefully administered, and the system supported by a proper aliment; for there is nothing more dangerous than by any interference with the usual habits of the patient to reduce the strength in these cases."

Dr. Stokes's important observations on the condition of the heart in typhus, and the practical deductions arising from them as to the use of stimulants, are well known; but if any one is ignorant of them he cannot do better than consult the 7th chapter of the work before us.

The chapter on fatty degeneration, displacement, rupture, and nervous disorder of the heart, and on aneurism of the thoracic and abdominal aorta, are all treated in the same masterly way, and no one, old or young, can rise from their perusal without having derived great benefit. The only reference, however, that we find it necessary to make to these chapters is to say that among the symptoms of fatty degeneration, much stress is laid upon a form of respiratory distress, "consisting of a period of apparently perfect apnœa, succeeded by feeble and short inspirations, which gradually increase in strength and depth until the respiratory act is carried to the highest pitch of which it seems capable, when the respirations, pursuing a descending scale, regularly diminish until the commencement of another apnœal period. During the height of the paroxysm the vesicular murmur becomes intensely puerile."—(p. 336.) This symptom is thought to be peculiar to the affection. Another point of interest in connection with fatty degeneration which is instanced, is a rapid evolution of inflammable gas in the tissues of the body after death. This is thought to have some bearing upon the question of spontaneous combustion.

2.—Dr. Bellingham's work on Diseases of the Heart, when complete, will consist of two parts, and the volume before us is the first of these. This part contains a full and careful examination of the size, weight, measurements, motions, and sounds of the healthy heart, and of the physical signs, the general signs, and the secondary or remote symptoms of cardiac disease. Upon these several points we find a careful history of what is known, mixed up with a considerable amount of judicious and original reflection. Dr. Bellingham is of opinion that the sounds of the heart require revising. "From what precedes," he says, "it would appear that sounds in every respect analogous to the normal sounds of the heart may be developed, independent of valvular action, or of muscular contraction; while we know that the normal sounds of the heart are readily converted into murmurs, simply by increase of friction between the blood and the parietes of the orifices of the heart. Now, when we consider the rapidity and the force with which the blood enters, and is expelled from the ventricles; and when we consider the amount of friction which must necessarily take place between the fluid and the parietes of the orifices of the heart, it seems not unreasonable to refer the normal sounds of the heart to this cause rather than to valvular action or muscular contraction; the first sound to the friction between the blood and the parietes of the arterial orifices during the ventricular systole; the second sound to the friction between the blood and the parietes of the auriculo-ventricular orifices during the ventricular diastole."—(p. 92). This view, we must say, is supported by a considerable amount of evidence in its favor; but for that evidence we must refer our readers to the work itself.

1. *Registrar-General's Quarterly Returns of Deaths in England and Wales during 1853.* Published by authority.

2. *Weekly Reports of Births and Deaths in London during 1853.*
Published by authority.

The facts which are contained in these returns and reports are of great and increasing interest both to physician and philanthropist, and we therefore propose to give such an abstract of them as may serve to convey an accurate conception of the state of the public health during 1853.*

*We are indebted to John Webster, M.D., F.R.S., for this excellent report, as we were also, for the corresponding report upon the Sanitary aspect of England, during 1852. (Vide Abstr. vol. xvii.)—Eds.

During 1853, the aggregate deaths throughout England and Wales, having amounted to 421,775, the mortality consequently exceeded the average, not only of the previous, but of many former years, the total deaths registered in 1852 being reported at 407,938, the excess during that year was therefore 13,837, or 3.12 per cent, if compared with the twelve months immediately preceding. Although more numerous than usual, the aggregate fatal cases fell short of those registered during 1847 or 1849, when the total mortality was greater than at any previous period, according to any accounts now extant. In 1847 the deaths having amounted to 423,304, whilst, during the other year just quoted, 440,839 persons died; this great increase being, however, entirely owing to cholera then epidemic. Compared with 1850, the past year proved much more unhealthy, seeing 368,995 individuals died in that period, throughout England and Wales, being 52,780 fewer fatal cases than in 1853, whilst the numbers reported during 1851, although amounting to 395,174, were less by 26,601, if contrasted with the twelve months embraced in the present report. Reviewing therefore the entire subject, it thus appears that a larger proportion of the population were carried off by sickness during 1853, than in any year of modern times, so far at least as any accurate data can be obtained, with the single exception of 1849, when 71,853 human beings having died from cholera, the total mortality amounted to 440,839 during that year. With reference to the above mentioned great fatality of cholera, it is a curious fact that the lives of more persons were thereby sacrificed, than actually fell in the many fields of battle, amongst English soldiers, throughout the late war, viz., from 1792 to 1815, in every quarter of the globe—the proportion being about three and a half persons who actually died in England and Wales during 1849 from cholera, to one British soldier actually killed in action; whilst the aggregate deaths by that epidemic malady amounted even to more than the total persons wounded during all the battles fought in the period already quoted. This comparative fact is both curious and instructive, and if any circumstance could impress upon public functionaries the absolute necessity of paying constant attention to sanitary improvements, the statement just made ought to have imperative influence.

Regarding the 421,775 deaths which occurred during the year terminating last December, it appears the largest proportion took place during the first three months of that period: 118,241 fatal cases by all causes having been then reported. The next greatest number was registered in the second quarter, viz., during April, May, and June, when 107,861 deaths supervened. The last three months of the year, or October, November, and December, follow afterwards in respect of their fatality, seeing 103,341 persons died in that quarter, whilst, throughout the autumnal months of July, August, and September, only 92,332 deaths were recorded, thereby showing the above season proved by far the most salubrious period of the entire year, and very different from the parallel quarter of 1849, or indeed of ancient times, when history states the autumn seemed usually the most unhealthy season, compared with others, amongst the English population. Placed in juxtaposition to the first quarter of 1852, that of 1853 gives an increase of 11,559 deaths during the corresponding three months. How this augmentation was produced, I now proceed to investigate, and will endeavor to explain. Speaking generally, the excess of mortality above mentioned has not been confined to any particular district, although certainly greatest in the southern and western counties of England, also in Wales, and on the banks of the river Severn, thus showing that the western portion of England proved the most unhealthy, since small-pox, scarlatina, typhus, influenza, and bronchitis were very prevalent, and often became proximate causes of the augmented mortality which was recorded.

Amongst the most prominent features characterizing the increased amount of deaths, during the quarter now under discussion, the great mortality by fever at Croydon may be mentioned, as also in Tanbridge. At Winchester, measles, pertussis, and bronchitis, also proved unusually fatal amongst infants and old people. In some parts of Wiltshire pneumonia and typhus were very prevalent, whilst in Devonshire small-pox carried off many victims without previous vaccination, cow-pox being often objected to by the ignorant population, amongst whom, the aversion to that safeguard is stated to be frequently truly deplorable.

The same may be said in reference to Cornwall, where in some districts, a very great prejudice also exists against vaccination. Cheshire and Lancashire exhibited likewise an augmented number of fatal cases. For instance, in Stockport, and especially at Macclesfield, the deaths ranged considerably above the average; typhus and measles being very rife. Throughout Lancashire, the mortality was also great, particularly at Wigan, Bolton, Oldham, and Blackburn; the chief fatal diseases having been typhus, measles, and scarlatina. Again, in Wales, the deaths also exceeded the average; this result being mainly owing to scarlatina, typhus, and small-pox; the ravages of the latter disease having been among those who have not availed themselves of vaccination. In the northern parts of England, like the eastern side of the island (as already stated), the rate of mortality fell somewhat below the average of former years, with the exception, however, of several localities, such as Morpeth, Hexham, Penrith, and Cockermouth, where the cold weather of winter was severely felt; whilst scarlatina, small-pox, and fever prevailed to some extent. At Belford, in Northumberland, the deaths ranged also considerably above an average amount, in consequence of the great prevalence of typhus and scarlatina, which proved very fatal in this locality.

During the second quarter of last year ending in June, the total deaths amounted to 107,861, which thus exhibits a larger proportion than has been observed during many previous parallel seasons. Indeed, the mortality recorded in April, May, and June, exceeded the highest ratio ever before registered; the excess, when compared with the spring quarter of 1852, being 7,048 deaths, or one-fourteenth upon the aggregate amount. The augmented number of fatal cases then met with supervened as well in town as country districts, although the increase was certainly greater in the former than the latter localities. This peculiarity coincides with all previous experience: the annual rate of mortality being, in town populations, about two and six-tenths per cent.; whereas, in districts comprising villages and country parishes, the ratio of deaths ranged under two and two-tenths per hundred.

Similar to the insalubrity stated to have prevailed in the southern and western portions of Britain, during the first three months of 1853, the mortality also recently rose above the average throughout these districts, the greatest excess having occurred in Croydon, and on the sea-coast, as for instance at Dover, Folkestone, the Isle of Wight, in Devonshire, and Cornwall. The most fatal diseases being scarlatina, typhus and small-pox; respecting which, great prejudices are still entertained by the ignorant population, resident particularly in agricultural localities, against vaccination. This remark appears especially applicable to Wales, seeing that at Abergavenny, Carmarthen, Holywell, and several other places, variola caused great ravages. It is, however, very gratifying to find, for example, at Holywell, notwithstanding seventeen deaths arose from small-pox during the quarter, not a single fatal case occurred after vaccination; and although numerous instances were met with in persons reported to have been previously vaccinated, they all terminated favorably, in most cases without leaving marks afterwards.

In some parts of Suffolk and Essex, the rate of mortality ranged high; and, notwithstanding ague and fever prevailed in several districts of Norfolk, the deaths did not exceed the average at Norwich; whilst in the county generally, the proportion was rather less than ordinary. Throughout Nottinghamshire and Derbyshire, the deaths exceeded; but in Lincolnshire they fell below the average; whilst Cheshire and Lancashire were not more than usually unhealthy. In some districts of Yorkshire, the deaths were exceedingly numerous; as for example, in Halifax, Bradford, Sheffield, Rotherham, and Huddersfield; but in Leeds and Hull the mortality declined. In many of the colliery districts of Durham, ague and typhus prevailed extensively: whilst measles proved very fatal at Stockton; and typhus is stated to have raged to some extent in Appleby and Morpeth; fever being, at the same time, very prevalent in Tynemouth.

Respecting the third quarter of last year, comprehending July, August, and September, unlike the corresponding three months of 1852, when the number of deaths greatly exceeded the average mortality of previous parallel seasons, the aggregate deaths, during the period under discussion, were less than usual,

having only amounted to 92,332 ; whereas, the mortality registered in the same season of the year immediately preceding, was 100,497, being a diminution of 8165 fatal cases, or nearly one-eleventh of the whole number ; thus giving about the same amount as that recorded during the autumn quarter of 1851, when 91,381 deaths were reported. Speaking generally, the diminished rate of mortality characterizing the quarter now under consideration, extended over nearly every county, except Durham and Northumberland ; indeed, almost everywhere, unless in a few districts of the above named counties. Throughout Kent and Surrey, as also in Sussex, the mortality was low, although fever proved more fatal than usual at Ramsgate, scarlatina at Margate and Dover ; whilst it was also very malignant at Ticehurst. In Portsea Island and Southampton diarrhœa was very prevalent ; and at Cookham, in Berkshire, the deaths from scarlatina were above the average. In the southwestern and midland counties of England, the public health seemed generally satisfactory, as also in Shropshire and Staffordshire. Dudley formed, however, an exception ; scarlatina, of a very malignant kind, having prevailed in this town, whereby 107 deaths, out of a total mortality of 283 cases by all diseases, were actually produced ; whilst 11 additional deaths arose from secondary disease after that eruptive malady. In Coventry, the mortality was also rather above the average, the excess being, however, chiefly, amongst infants. In Newark the deaths were, likewise more numerous than ordinary : especially from scarlatina, 65 fatal cases by that complaint having occurred out of 108 by all causes. Cheshire was generally healthy, as likewise Lancashire ; where, such populous towns as Liverpool, Manchester, Chorlton, and Salford—which at other seasons are sometimes very insalubrious—the general mortality was recently under the average. Ashton seems, however, to have formed an exception ; seeing measles, diarrhœa, and scarlatina, were very prevalent. Owing to an outbreak of cholera at Newcastle-upon-Tyne, which soon assumed a most virulent and fatal character, the mortality of that town became greatly augmented, during the quarter now under review ; the total deaths by all causes having there amounted to 2,085, or more than three times the usual average, of which about 1,500 arose from the prevailing epidemic. In fact, almost as many human beings were sent to their long home, within these three months, as are usually recorded in ordinary years ; for instance, during 1850, when the whole deaths only amounted to 2,090 by all diseases. In Gateshead the mortality was also great, the ratio being double that of previous parallel seasons, and chiefly by cholera ; whilst in Tynemouth, the same epidemic, besides diarrhœa, was prevalent. In addition to which it should be stated, the deaths were in excess at Hexham, and chiefly from similar maladies. Throughout Wales the public health appeared satisfactory, excepting at Holyhead, where scarlatina prevailed, and often proved fatal. The same remark applies to Corwen ; whilst in Holywell, small-pox raged with great severity, as it did in the previous quarter ; 17 fatal cases, or one-fifth the total mortality, being registered from that malady.

Like the previous quarter, the aggregate number of deaths recorded throughout England and Wales, during the months of October, November, and December, fell short of the amount registered either in the first or second quadrennial divisions of last year, but exceeded considerably that of the quarter immediately preceding ; 103,341 persons having died from all causes within that period. During these three months, a greater number of lives having been lost throughout the entire population than in any other corresponding season of the previous thirteen years ; with only two exceptions, viz., that of 1846, when the deaths amounted to 108,937 ; and that of 1847, during which quarter 103,479 individuals died by different maladies. With reference to particular localities, it appears the number of deaths in the southern and eastern counties of England scarcely differed from the amount recorded in the same season of 1852 ; which, therefore, affords a general result by no means unfavorable. Nevertheless, the mortality experienced in Kent ranged high, scarlatina having been common at Margate and Maidstone ; fever at Tunbridge and Folkstone. In Portsea Island fever also raged to a great extent ; and in Southampton small-pox was very rife, and where, it is reported, many persons are so averse to vaccination that they refuse to have the operation performed, hoping their children may take the disease naturally ! Although the

southwestern parts of England were generally healthy, in some localities the deaths rose rather above the average. At Chippenham, for instance, typhus and scarlatina prevailed. In Exeter, the mortality was rather high, particularly among aged persons, from bronchitis, as likewise apoplexy. Plymouth exhibited an increased number of deaths, many being from cholera, which also supervened in other localities. Cornwall was more unhealthy than previously; scarlatina having raged in Falmouth, and especially in Redruth, where measles, pertussis, and cholera likewise carried off many persons: the two former maladies being, it should be added, very prevalent in Penzance. Essex, Suffolk, and Norfolk, were comparatively rather healthy, excepting Norwich, fever and small-pox having there proved fatal to a considerable extent; which may, however, be accounted for by the fact that, among the poor and uneducated populace of this ancient city, a great dislike still exists to have their children vaccinated. In some districts of the midland counties the inhabitants suffered severely from sickness; scarlatina having committed great ravages in Warwick, Stoke-upon-Trent, Wolverhampton, Walsall, and especially Dudley, in which town this eruptive disease appeared of a malignant description; typhus being besides prevalent. Birmingham also suffered a sharp attack of scarlatina; which was besides common in Worcestershire, in Shrewsbury and other parts of Shropshire. This epidemic malady likewise raged with great violence throughout the counties of Lincoln, Derby, and Nottingham: Grantham, Horncastle, Newark, and Bakewell, appearing thereby the most severely afflicted, especially the latter town, where 42 fatal cases were registered from that complaint out of 115 deaths by all causes. In Cheshire and Lancashire, scarlatina prevailed even more fatally than elsewhere. At Stockport, the disease assumed a most malignant type, and created almost as much alarm as cholera, there being many instances of two persons lying dead at a time in the same house; whilst its severity was further shown by the fact, that out of 750 deaths in the four sub-districts of this town, 195, or nearly one-fourth of the entire mortality, arose from scarlatina. In Liverpool, the amount of sickness seems to have ranged about the average, although bronchitis and diarrhœa carried off a great number of persons in some localities; at the same time that cholera also prevailed, especially in the workhouses where 96 deaths by the epidemic occurred among residents; the total cases terminating fatally from this malady, being 163 during the quarter. Wigan and Bolton likewise exhibited an augmented rate of mortality; measles, scarlatina, and bronchitis having proved rife. Chorlton also ranked high in the mortuary scale—a great number of aged people falling victims to bronchitis; whilst scarlatina, like the epidemic at Stockport, became so exceedingly malignant that more than one-fourth of the total deaths were thereby produced, but solely confined to children. In Manchester, the mortality ranged also high; diseases of the respiratory organs being prevalent. Oldham, Rochdale, and Ulverston lost many persons by scarlatina; and, lastly, it is worthy of note that, two deaths were registered in Lancaster from hydrophobia. Like many districts already specified, Yorkshire appears also to have suffered much by the ravages of scarlatina, the epidemic having carried off many children at Halifax, Bradford, Doncaster, Barnsley, Sheffield, Selby, York, Richmond, and especially at Wakefield, in one sub-district of which a fourth of the whole deaths arose from that cause. Besides the above prevalence of scarlatina, typhus and fever proved also fatal in many cases at Todmorden, Sheffield, and Northallerton. On the other hand, the northern districts of England show rather a decrease in the number of deaths, if compared with the previous quarter; although cholera became diffused to a wide extent: fatal cases of this epidemic being registered in Stockton, Bishop Auckland, Sunderland, Gateshead, and Tynemouth, where 124 deaths by cholera occurred during the quarter; as also at Kirkby, Lonsdale, and Cockermouth, in which town 44 persons died by that malady. Scarlatina proved severe at Whitehaven on the west coast, whilst it prevailed along the eastern sea-shore and in Alnwick, but spared districts more remotely inland. Lastly, in Wales, the deaths rose a little above the average, scarlatina having raged with severity in Cardigan, Wrexham, Ruthin, and Corwen, where small-pox also carried off many children. Amongst other interesting facts connected with the public health of this principality, a very striking instance deserves record, which occurred at Cowbridge in

South Wales. Here, about forty different families, chiefly connected with the neighboring gentry, are reported to have received the infection of typhus from attending the hunt balls at an inn of this place, when the guests supped in a crowded room built over the stable, and occupied premises which were filthy from defective drainage. Several persons died in consequence, whilst many of those attacked continued in a very precarious state for some time afterwards. Various other questions respecting public health, and the different diseases which raged during the past year, even sometimes with unusual violence, might be further discussed, but I refrain, and will therefore now proceed to investigate the same subject in reference to London and its recent salubrity, so as to learn how far the number of deaths and the type of diseases have varied from previous years.

Similar to the generally augmented mortality reported in previous pages to have prevailed throughout England and Wales, the aggregate number of deaths recorded in the metropolis during 1853 also exceeded the amount of any former year, with the single exception of 1849, since the Registrar-General's official tables were first published. The total deaths in the more recent period being 61,202, which gives an increase of 6,989 fatal cases over the year 1852, when 54,213 persons died within all the metropolitan districts. Last year appears therefore to have been unhealthy, and pressed heavily, in reference to the destruction of human life, upon the general metropolitan population. This seems to have been especially the case during the months of October, November, and December as 17,390 deaths were then recorded, contra-distinguished to 12,918 in the previous or autumnal quarter, whilst 15,864 occurred during the first, and 15,030 in the second trimestre of the period embraced by the present report. Having stated in my former remarks respecting the sanitary condition of London, that some disease generally appeared more prominent than any other during particular years, as for example scarlatina in 1852, it is curious to find a similar peculiarly occurred last year, when whooping-cough proved unusually fatal, 2,652 persons being cut off by that complaint instead of 1,565 during 1852 which ranged about the average. Pertussis, therefore, constituted the rather remarkable illustration of a particular complaint prevailing to an extraordinary extent during last year, much in the same way as in 1849, when cholera raged like a pestilence. Although whooping-cough appears to have been so common and fatal, it should, however, be also mentioned that, it was chiefly during the months of April, May, and June, since 857 fatal cases by the malady were then reported. Afterwards it fell to one-half, or 426 deaths during the subsequent quarter, the weather being then much warmer. In the colder seasons the mortality rose higher, but it never equalled that recorded in the second or spring quarter, and chiefly proved fatal to infants or young children.

Notwithstanding the generally augmented number of deaths throughout the metropolis during the past year, several diseases exhibited some diminution—as for instance, scarlatina, whereby 2,069 were recorded, instead of 2,549 during the previous twelve months. Rheumatism and rheumatic fever also gave a decrease, 294 fatal cases having occurred in the recent, against 321 during the former period. The same rule applies to child birth and puerperal fever, 392 deaths having been recently recorded, in place of 450 during the previous year. Pericarditis proved likewise less fatal, in the ratio of 94 to 116 cases. Enteritis supplied 329 in place of 394. Peritonitis 192 against 213, and by jaundice 156 deaths, instead of 186, were recently reported. But the most remarkable decrease characterizing any malady during the past year, occurred in reference to small-pox, only 217 fatal cases having been reported by that epidemic throughout the entire metropolitan population, the deaths from the same cause having amounted to 1,166 during the previous twelve months. In fact fewer persons fell a sacrifice to this formerly pestilentially spreading disease, than has ever been recorded in history, and quite different from the extensive ravages it has often annually committed amongst the inhabitants of London. Indubitably, the greater attention now paid to disseminate vaccination amongst young people in London, has contributed to this salutary result, and although many ignorant persons still doubt the prophylactic virtues of cow-pox, or have been influenced by the fanciful theories of prejudiced individuals, more correct views respecting

the real efficiency of vaccination are now diffused, even amongst the lower classes of the metropolis, and certainly to a much larger extent than in agricultural districts, or even among residents of country towns in the remote parts of England: where, a strong dislike often still prevails in the minds of poor and uneducated natives to have their children vaccinated, hoping they will take small-pox naturally, and in which some have succeeded. It is, however, highly satisfactory to find such prejudices are on the wane: notwithstanding ignorant persons in particular localities may still object to vaccination, on the ground that it is interfering with the decrees of Providence. Since the compulsory act has come into operation, much good has been accomplished; and in a few years, there are good grounds for anticipating that, cowpox will become as much diffused in provincial, as it is throughout metropolitan districts; whilst in the latter, it will, I hope, show further extension.

Having now adverted to the few maladies which manifested in London, during 1853, a diminished rate of mortality, I now proceed to examine those diseases whereby the augmented number of deaths, previously noticed, were mainly produced, and which sufficiently explain that circumstance. Hooping-cough has already been mentioned, to which malady the following diseases may be also added, as also exhibiting an increase. By typhus, 2,649 persons died in 1853, instead of 2,164 during the previous twelve months. By measles, 1,007 in place of 600. From cancer, 1,083 against 936. Phthisis carried off 7,502 in place of 6,935 and tabes also showed an increase, 965 deaths having occurred by that cause, against 838 in the previous year. By apoplexy 1,339 died instead of 1,162. Paralysis 1,212 against 1,021. Cephalitis, 573 in place of 528. Epilepsy, 413 instead of 370; and by convulsions 2,183 died against 2,029. Affections of the chest, however, proved more fatal than almost any other class of complaints, seeing 5,223 persons died recently, instead of 3,744 during the former year. By pneumonia, 3,938 in place of 3,271; and by asthma, 833 against 627. Diseases of the liver were also more fatal, the numbers being 651 to 589; whilst affections of the kidneys come within the same category, 605 persons having died thereby in place of 446; and lastly, carbuncle, although often more fatal during recent years than formerly, seemed still to be increasing in fatality, 70 deaths being reported from that cause instead of 50 during the previous twelve months. Violent deaths were also increased in number, 1,642 fellow-creatures having lost their lives through accidents, in place of 1,511 during 1852; fractures, contusions, and drowning being most numerous. Another source often destructive to human life merits special notice, not only on account of its recent increase, but as indicating greater extension of a practice which entails serious consequences, and is highly reprehensible. I mean the augmented number of infants who were sacrificed last year through 'the want of breast milk,' their natural and best kind of nourishment. From adopting this custom, which fashion sanctions, but reason condemns, 302 human beings just entering upon the morning of existence, are reported to have fallen victims in 1853, against 267 during the previous corresponding period. This fact is most instructive, and shows the injurious effects which often arise from mothers in the middle and higher ranks failing to nurse their own offspring, and so calling in the aid of hirelings, who thereby become bribed to neglect those duties imperatively assigned them by nature and maternal affection. Diarrhœa and cholera also exhibited an augmented mortality, particularly the latter disease, which prevailed epidemically during the fourth quarter of 1853. From diarrhœa, 2,310 persons died last year, instead of 2,164 in the former; whilst cholera carried off 881 individuals against 162 during the previous period just mentioned, 728 of the deaths being registered in the last three months, when the epidemic was very rife. It is, however, gratifying to state the disease soon afterwards disappeared, only 7 fatal cases by cholera having been recorded in London throughout the first three months of the current year. That this malady will again appear next autumn is not unlikely, but I earnestly hope the public may be spared such a visitation.

Various diseases have manifested a marked similarity in reference to the number of deaths recorded during the year embraced in the present report, if compared with that immediately preceding. For instance, croup carried off 374 persons during 1853, and 343 in the former year; influenza 112, instead of

117; erysipelas 324 against 329; hemorrhage 210 against 233; dropsy 844 against 811, scrofula 443 against 447; insanity 132 against 114; diseases of brain 651 against 621, gastritis 76 against 79; hernia 148 against 137, ulceration of intestines 140 against 139, hepatitis 215 against 207; diabetes 54 against 48; stone 38 against 33; cystitis 36 against 35; ovarian dropsy 46 against 46; and quinsy 56 in place of 56. Several other complaints might be also enumerated, but it seems superfluous: although they would further demonstrate, notwithstanding the immense metropolitan population, a considerable similarity frequently obtains, in the number of fatal cases annually recorded from very different diseases. However, I will not pursue this subject any further, but would only now remark that, in consequence of the augmented mortality recorded during last year, the ratio of deaths in the aggregate population became materially increased, having amounted to one in every 40½ inhabitants, both sexes included. If calculated in reference to each sex, one male died in every 36½ individuals, whereas, if confined to females, the proportion fell to one death in 44½ persons, thus proving the result ranged considerably in favor of the latter. The fact now mentioned coincides with the experience derived during former years, while it may also be stated, according to data contained in the present report, the average mortality was higher throughout the low-lying districts south of the Thames, than in the north and western, but more elevated localities of the metropolis—the former giving one death in every 37 inhabitants, the latter one in 44, males and females taken indiscriminately.

Reviewing the various points now brought under notice, and supported by the observations of other investigators, it may be asserted with confidence, that the rate of mortality ranges on an average higher the nearer we approach towards the sea shore, than throughout the interior districts of Britain, especially amongst town populations. This remark applies especially to such places as Dover, Brighton, Southampton and Exeter on the south, to Hull and Sunderland on the east, as also to Liverpool on the west coast, when compared with equally crowded communities resident in the Middlesex part of London or in Leeds, but particularly in reference to Birmingham, which is situated about the centre of England, considerably above the sea-level, and at a distance from all marine influence. In the places first named, the aggregate number of deaths, in proportion to the total population, is always greater than in the latter. Indeed, Birmingham may be justly considered the most healthy locality of England, speaking comparatively. Cholera has never been epidemic in this town, typhus is always a very rare disease; and although scarlatina proved rather prevalent last autumn, this seemed almost an exception to its general salubrity. Notwithstanding the smoke, sometimes overcrowded dwellings, and the laborious occupations followed by great numbers of people, this district appears remarkably healthy whilst the rate of mortality ranges generally lower than in any other populous locality with which I am acquainted. Anxious to give some satisfactory explanation of this remarkable feature in reference to the unusual healthiness of Birmingham, I applied to Dr. Evans, the eminent physician to the general hospital of that town, for information, as he could, from his local knowledge, and scientific attainments, speak with authority upon this important inquiry. In reply to the question I put—What are the chief causes of the great salubrity of Birmingham, compared with other towns, especially on the coast? Dr. Evans wrote as follows—'1. The elevated situation of the town, which varies from 300 to nearly 500 feet above the sea-level, its undulating surface, and the greater part of the town being built upon the new red sandstone and gravel. 2. The comparative exemption from fith and stagnant water, which are carried off by the porous nature of the soil, and an excellent plan of sewerage, and adequate supply of good water. 3. The smaller density of its population, compared with other large towns—almost every family being provided with a separate house, and no instance of a cellar being used as a dwelling—its wide and well-ventilated streets. 4. That, with few exceptions, the process employed in the manufactures are not injurious to health. 5. The almost inviolable prosperity of trade for many years past—the remuneration for labor being adequate to supply the operatives with the necessaries of life. 6. The great number and variety of trades and manufactures, affording extensive scope for the exercise

of inventive and practical talent, by which the enterprising artisan is elevated *gradually* to advance himself to the state of a master; his success depending more upon industry, ingenuity, and skill, than the amount of capital at his disposal; hence, the number of small firms, and the large proportion of inhabitants who are in easy, or moderately affluent circumstances. I believe that this facility of self-advancement is one of the most remarkable features of this town—it operates powerfully as a stimulus to the acquirement of industrious, temperate, and provident habits—it accounts for the more equal distribution of wealth in Birmingham, than in other towns, and contributes greatly to the improvement of the sanitary, moral, and physical condition of its inhabitants.” This instructive communication so completely explains the marked superiority of Birmingham as a salubrious residence, that any additional evidence on my part would be altogether supererogation. I cannot, however, append to the present report the above interesting remarks Dr. Evans has kindly forwarded, without expressing many thanks to that gentleman for enabling me to lay before the profession, on the present occasion, the opinions he entertains upon the important point discussed, and which deserve attentive perusal, seeing the various sections of his note—given verbatim—contain much valuable information.

“Several practical reflections, based upon the various data enumerated in preceding paragraphs, might be here adduced; but I will only make one remark, namely, the fallacy often pervading the minds of numerous persons in this country, respecting the assumed greater salubrity of marine residences, compared with dwellings situated inland; whereby a strong desire is frequently felt to visit the coast, in order to breathe sea-air, and to bathe in salt water: on the plea that such proceedings must prove beneficial to health. Opinions of the above descriptions are in many instances most erroneous: and instead of producing benefit, a visit to sea-side watering places becomes actually prejudicial; whereas, were more internal and rather elevated situations selected, especially those having a southwestern exposure, where the water was good, the air pure, free from saline particles, and not impregnated with damp vapors, which very frequently arise from the mud or decayed vegetable matter exposed on shore, to the action of the atmosphere or the sun’s rays, every twelve hours, no doubt can exist but localities, constituted as now described, would be generally found much better adapted for the constitutions of many persons, and even of those invalids who at present frequent marine towns or villages, from the firm belief that sea-air will always act as a grand panacea. In my opinion, the anticipation so commonly entertained regarding the beneficial effects which a marine atmosphere is often believed to produce, are neither borne out by the rates of mortality characterizing many of those favorite quarters for sick and idle people, nor by their actual results upon the human frame. Like the wide-spread notion frequently pervading a large portion of modern society, in favor of foreign climates being salutary towards restoring decayed health, the assertions similarly made respecting marine atmospheres equally require further confirmation. That a residence on the sea-coast is generally agreeable, no one will deny, any more than that some warm and southern regions of Europe seem delightful: but as neither longevity nor strong physical health are peculiar or even common to these countries, the sanguine views of partisans advocating either alternative will often become illusory and end in disappointment.

“Before bringing my present observations to a close, it will not be irrelevant to the subjects investigated, to say a few words respecting the number of births registered during the present year, and thus ascertain how far these may have influenced the aggregate population. In 1853 the children born amounted to 612,341, and as the total deaths were reported at 421,775, the increase became therefore 190,556 during the year. It is curious to observe, with reference to the number of births, that the largest proportion took place in the months of January, February, and March, when 161,598 were registered, and the fewest during the last quarter, only 144,444 having been then recorded, thus making upwards of 9 per cent. increase throughout the former period. The same remark applies to the second and third quarters, the numbers being respectively 158,718 and 147,581; from whence it appears, as the year advanced so were the births consecutively diminished. This result agrees with general and previous experience,

more children being usually born in the early part of the year, or during spring, than at any other season. Although the births usually far exceed the number of deaths annually registered throughout England and Wales, still it has been asserted that the aggregate population does not materially increase in consequence of the large amount of emigration constantly taking place to other countries, particularly North America and Australia—more emigrants having left the different British seaports during 1853 than the actual excess of births over deaths. This reasoning is, however, fallacious; since no allowance whatever is made in any calculations recently promulgated for the large number of foreigners who merely pass through England on the high road of embarkation to distant climes, and thus augment the large increasing tide of emigration. Any person perambulating the streets of London during the spring and summer season, and then visiting Liverpool, must have remarked the crowds of strangers he often meets, having every aspect of emigrants. In proof of this fact it may be mentioned that in the workhouse of the above city out of 96 deaths which there occurred from cholera, during the last three months of 1853, it is reported the disease proved chiefly fatal amongst German emigrants. Until, therefore, the nativity of those persons who now annually emigrate from British shores is more accurately ascertained, no satisfactory conclusion can be arrived at by merely placing the aggregate number of emigrants against any excess of births over deaths, and thus striking the balance; although some have readily received this reasoning as evidence of a fluctuating population. Such proceedings lead to error, and therefore additional facts must be first procured respecting the point mooted, prior to speaking confidentially in reference to the interesting question now alluded to incidentally, and which deserves more ample consideration.

II.

REPORT ON THE PROGRESS OF SURGERY.

1. *On a new method of managing fractures: from the address in Surgery delivered at the 20th Anniversary Meeting of the Provincial Medical and Surgical Association.* By JAMES TORRY HESTER, Senior Surgeon to the Radcliffe Infirmary, Oxford, &c., &c. (Churchill and Parker. Pamphlet. 1853.)
2. *Description of a new Splint.* By C. J. GIBB, Lecturer on Anatomy and Physiology in the College of Medicine in connection with the University of Durham. (*Medical Times and Gazette*, 31 Dec., 1853.)
3. *On a Speculum adapted for employment during Operations on the mouth, under Chloroform.* By J. SMITH, M.D., Dentist, Edinburgh. (*Edinburgh Monthly Journal*, April, 1854.)
4. *An account of a new Instrument for performing Artificial Respiration.* By W. MARCET, M.D., formerly President of the Edinburgh Medical Society. (*Medical Times and Gazette*, 22 April, 1854.)

Notwithstanding the great amount of mechanical skill which has been brought to bear upon the practice of surgery, the surgeon is still often thwarted by the imperfection of his instruments and appliances; and we therefore deem it a special part of our duty to notice all inventions which are calculated to remove this opprobrium.

1. Mr. Hester's address contains a good deal of valuable information respecting the management of fractures, and the plan which is recommended in fractures of the thigh demands especial attention.

There is, no doubt, much room for improvement in the treatment of this accident. The long straight splint provides pretty surely for a limb of proper length, but it is open to serious objections, and it certainly is not applicable to all cases. The position in which the limb is placed is as uncomfortable and unnatural as it can well be to a person lying in bed. The plan of placing the patient on the injured side, with the thigh flexed on the body and the leg on the thigh, so as to afford the greatest degree of relaxation to the muscles, is a much more rational way of placing the patient; but in this position there is unfortunately a constant disposition to turn on to the back, and thus an uncomfortable twist is given to the limb. The plan of placing the patient on the back, with the knee raised and supported by pillows or frames of various kinds, has also been found on the whole to be unsuccessful. Even Mr. Earle's bed, in Mr. Hester's experience, has been found to be "as defective as any other apparatus hitherto in use."

It was whilst making observations on Mr. Earle's bed that Mr. Hester was led to make the discovery upon which he bases his own mode of treatment.

"Let any one place himself in one of these beds, with the knee elevated to a proper height, and the back likewise elevated, then let the back be raised higher, or be more depressed, and he will find the knee thrust forward in the one case, and dragged back in the other. A moment's consideration will render any explanation as to this pushing or dragging unnecessary, and it will be quite clear that unless the back be kept always at the same elevation, a good cure cannot be looked for.

"On still further making observations, I found that the same pushing and dragging of the limb took place under ordinary circumstances, in changing from a sitting to a recumbent position. Any one may convince himself on this point very easily. Let him sit with his legs straight and his feet touching the wall,

and then fall back. He will find in doing so, that his feet are drawn about four inches from the wall. Let him reverse the experiment, and lie down with his feet against the wall, and on rising again into a sitting posture, he will find that his knees will become considerably bent. This effect is very easy of explanation. When sitting, as in the accompanying sketch of the skeleton, Fig. II. (v. p. 242) the acetabulum will be found to be above, or rather a little in front of a straight line over the tuber ischii, but on lying down the pelvis, as it were, rolls back, and the acetabulum is consequently carried several inches further backwards.

Mr. Hester proceeds:—

“Finding this to be the case, I considered that the best mode of treating fractures of the thigh would be to place the subjects of them on such a bed as would admit of the back being elevated or depressed, without at all interfering with the relative position of the trunk and thigh.

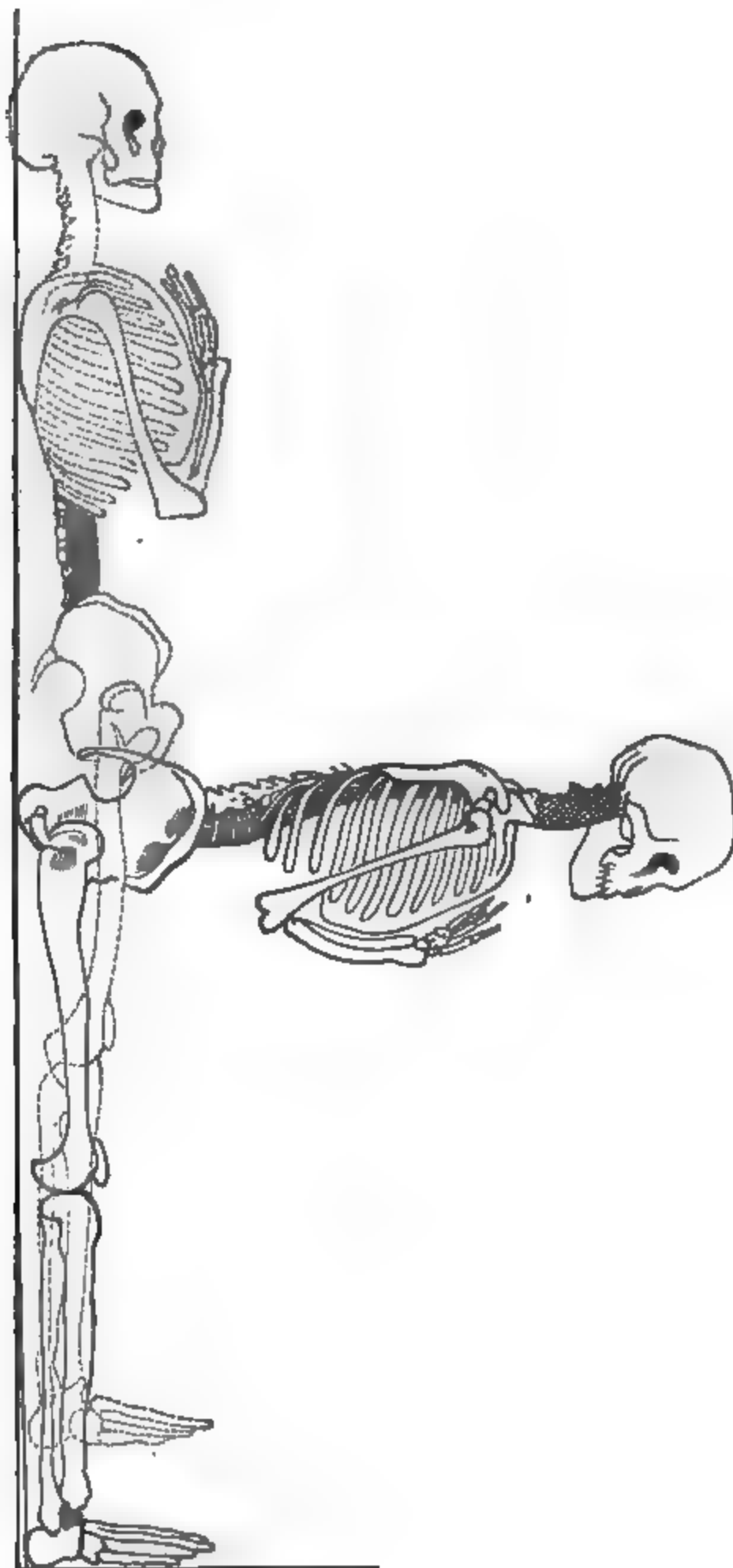
“Figure III. (v. p. 243,) shows the bed as it is adapted to a fracture of the middle of the thigh. It will be seen that it has no connection with the frame on which it rests, except by the hinges at the centre of the bed.

“Figures IV. V. and VI. (v. pp. 243-4), show the extremes to which, when thus fixed, it is capable of being elevated and depressed, the whole body being moved together.

“When the fracture is in the upper third of the bone, I think it desirable that the limb should be at a right angle with the trunk, when, if moderate pressure be made on the outer side of the bone, to antagonize the muscles which tend to abduct it, a straight limb, without any degree of deformity, will be certain to result.

“It will be seen that the part of the bed which supports the thigh is capable of being lengthened or shortened, so as to suit patients of any height; the foot-boards are likewise made movable. *The pelvis being fixed straight in this bed, the knees even with one another, as well as the feet, it is impossible that the fractured limb should come out shortened.*”

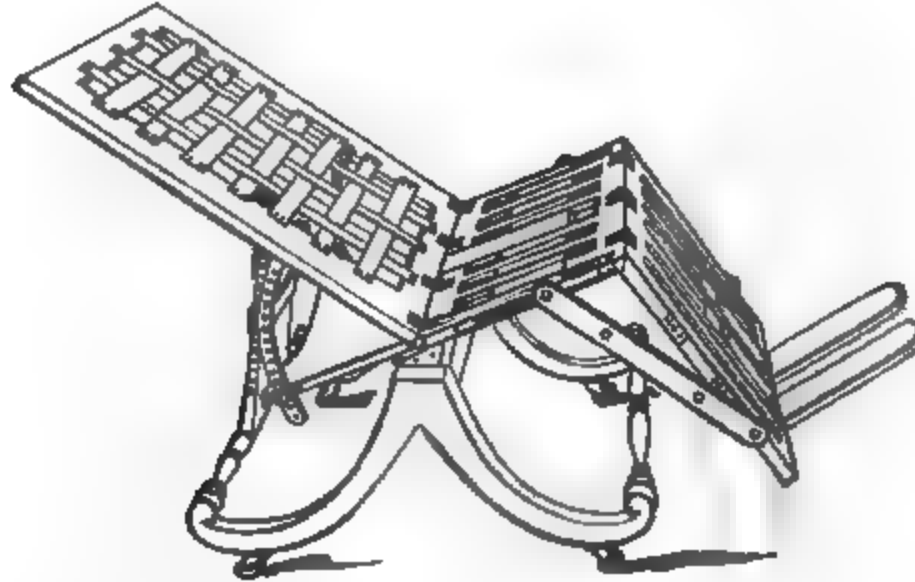
Fig. II.



Mr. Hester adds:—

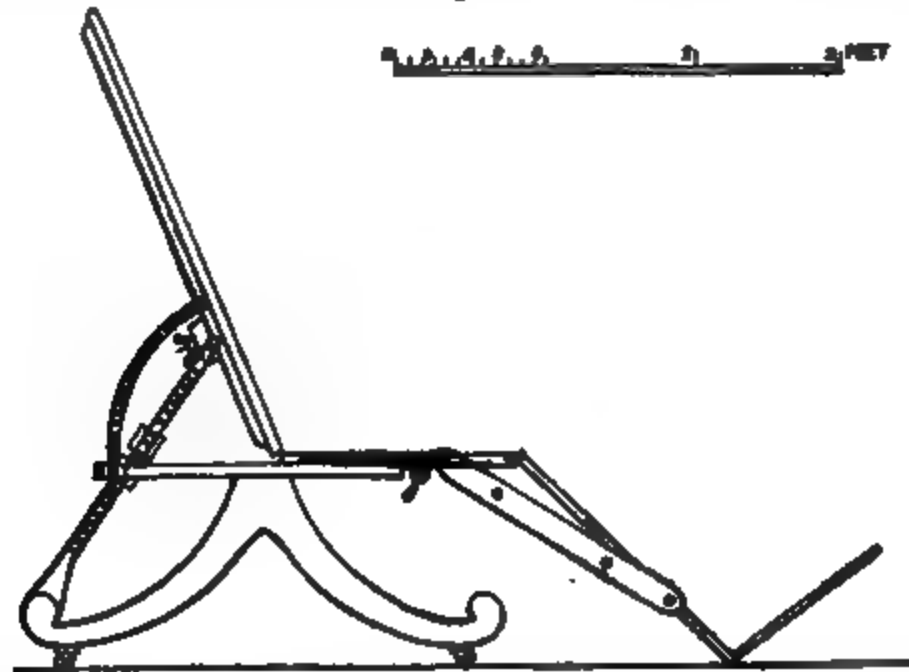
"There is one fracture, namely, of the neck of the thigh, to which my bed is, I think, more than to any other, applicable. And here I protest most strongly against making up one's mind to consider any given case as necessarily incurable, for, with all the rules which have been laid down, no one can say with

Fig. III.



absolute certainty whether the fracture is within or without the capsule, nor do I think that the impossibility of union, when it is intra-capsular, is by any means established. I do not consider that the means hitherto adopted have afforded a good chance of union, since nothing short of absolute quiet for a great length of time will be sufficient; and if there be a supply of blood adequate to nourish the head of the bone and the detached portion of the neck, I cannot see by what

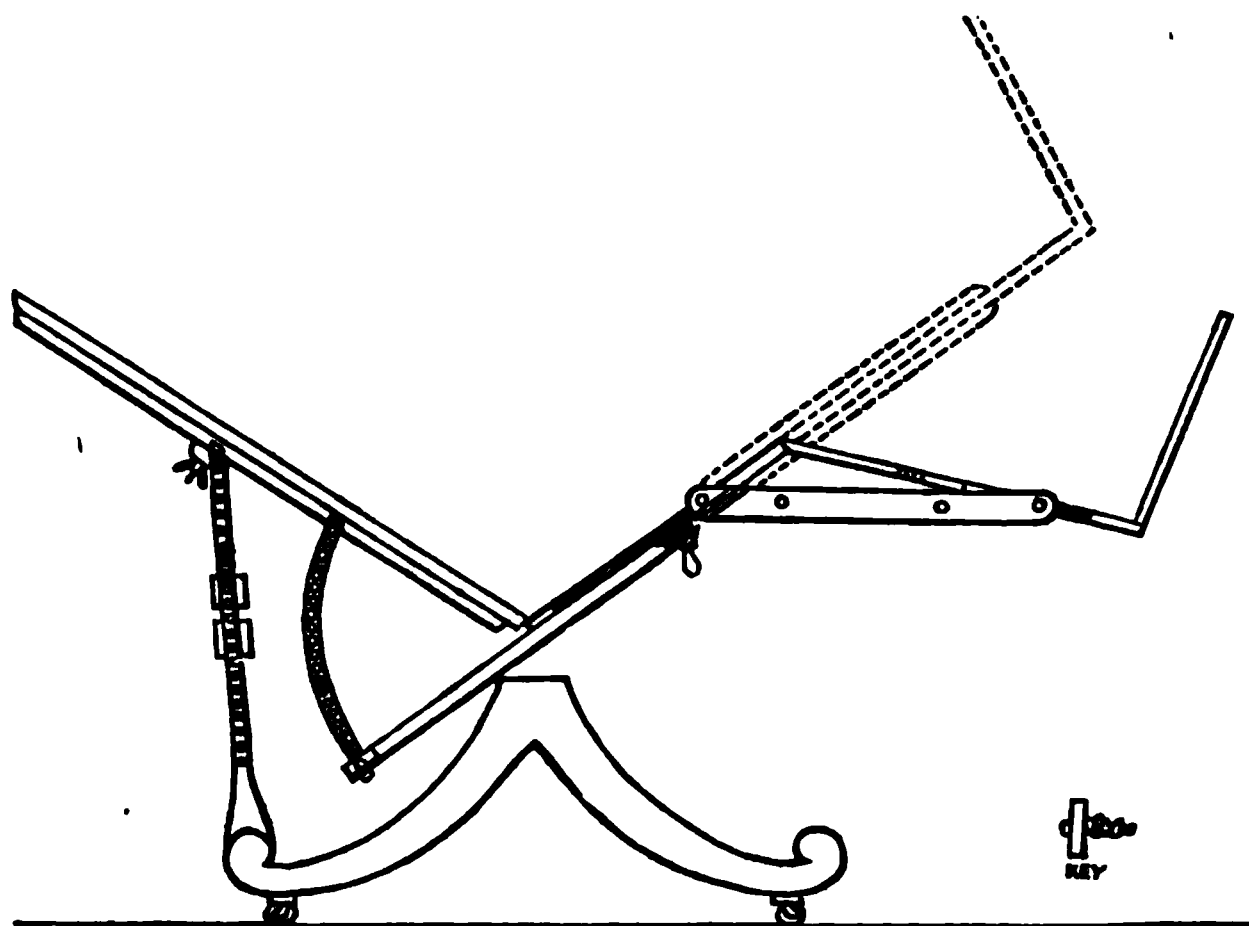
Fig. IV.



law we are justified in saying that union may not take place. If, on the other hand, the slightest motion be allowed, it cannot be looked for; nor with the fact which I have pointed out, can any mode of treatment be expected to succeed which does not prevent all motion at the hip-joint. Neither in the side position nor on the back can we possibly expect that a patient will be content to lie without moving for a period of three months, which is the shortest time I should consider safe. In my bed he may sit up or lie down without danger: indeed,

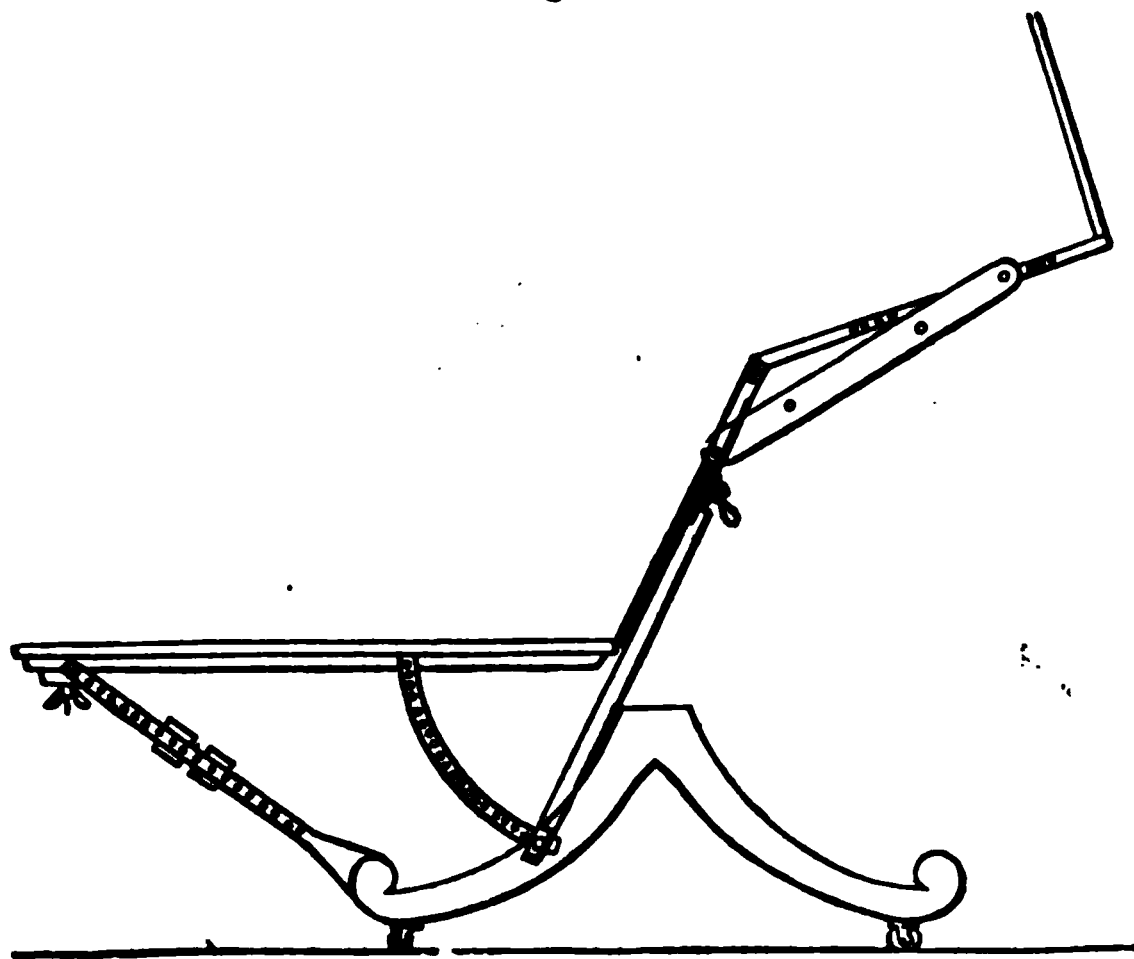
when treated on it, the tediousness of a long confinement to bed is quite got rid of, so constantly may he change from the sitting to the recumbent position. If the bone be kept in exact apposition, I cannot see why the periosteum surrounding the neck may not unite (nor does it follow that in all cases it must be entirely torn asunder), and so the head of the bone again derive nourishment from the vessels of the shaft.

Fig. V. *



"I have had two cases in which I have thus treated patients with fracture of the neck of the thigh, under the most unfavorable circumstances, and in which most satisfactory results ensued."

Fig. VI.



Mr. Hester's plan appears to provide most completely both for the comfort of

* The dotted lines in Fig. 5, show the position of the bed when used for fracture of the patella.

the patient and for the successful issue of the case; and we are much mistaken if it does not enable the surgeon to treat successfully all cases of fractured thigh, however high or however oblique the fracture may be.

2. "About a year ago," writes Mr. Gibb, in his *Description of a New Splint*, "a circumstance occurred which led me to believe that a splint, *simple in principle, and capable of adaptation to all fractures of the extremities, and to any size of patient*, was a great desideratum, and, if invented, would be more especially a boon to the general practitioner. The fact was suggested to me in the following manner:—I was requested by a medical friend in the country to order for him a large-sized splint, such as, in my opinion, would be most suitable for a bad case of compound fracture of the leg, at that time under his care. He had found it almost impossible to keep the bones in apposition when the limb was placed on an ordinary fracture-bed; and the profuse discharge necessitating daily dressing, was effected with no small degree of trouble and inconvenience. The long straight splint was inapplicable; and, as extension was required to keep the bones in apposition, short splints were likewise useless.

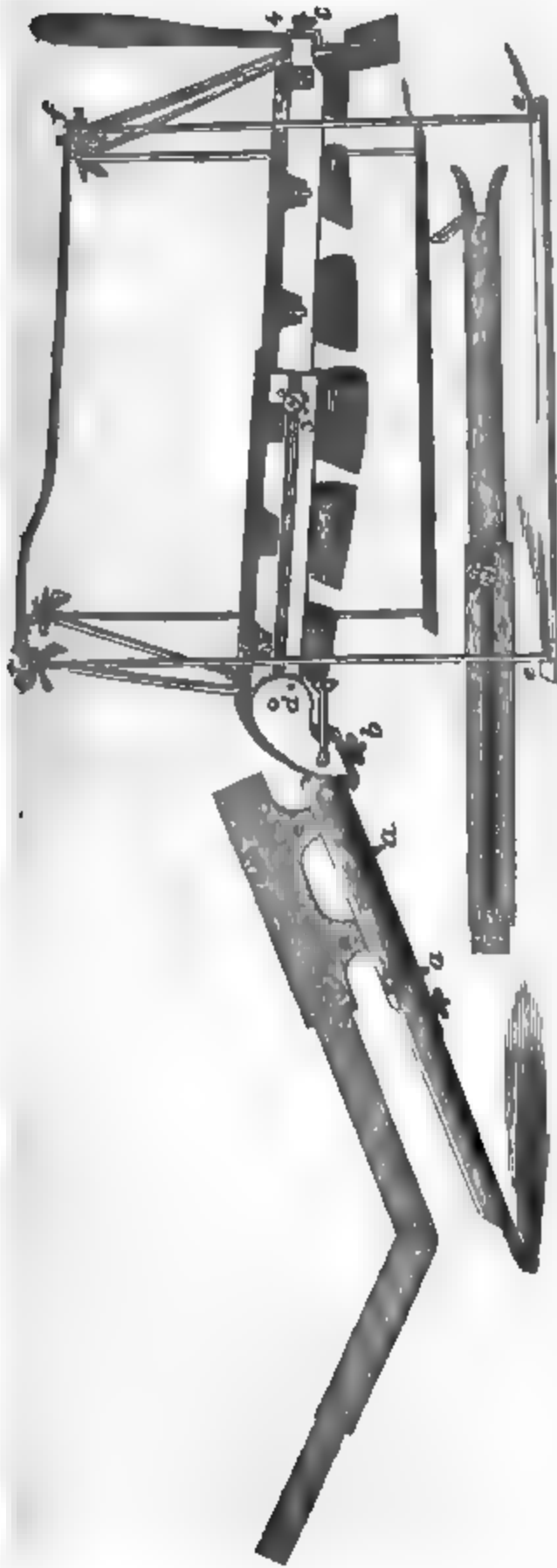
"The patient was a very tall man, and, upon reflection, it occurred to me to be a very foolish proceeding for a country surgeon to order an expensive splint of so large a size, that, considering also the special nature of the splint, it would probably be inapplicable to any case of fracture he might again have to treat during his professional career—unless, indeed, he was in extensive mining or other practice productive of accidents.

"Under the influence of these feelings, the idea struck me that it might be possible to invent for my friend a splint, suitable for the case in point, and one which would, at the same time, be capable of adjustment to the fractured limb of any other patient he might afterwards have to treat. I accordingly proceeded to make a model in sheet lead, which served as a pattern for the instrument-maker. Since that time I have still further followed out the idea; and after many trials, and considerable alterations of the original model, consequent upon suggestions arising during the extensive use of it for a period of now nearly a year, I have invented a splint which, I believe, will be found, in general practice, capable of almost universal application in fractures of the limbs. The principle of the whole splint is that of the simple slide. Each part is made of pieces of sheet iron, which slide alongside of or within each other, and can be fixed at any required length by a finger-screw. The various parts are designed in such a manner, as, when fitted together in different ways, to form a splint of varying size, suitable to the limb of a child or a man, and in shape combine all the advantages of various sizes of the long straight, Liston's, McIntyre's, and Greenhow's double inclined splints, for the lower extremity, or of small straight or angular splints, for the upper extremity."

The woodcuts will make the description clearer: they are on the scale of about an inch and a half to the foot. The splint consists, as will be seen, of a thigh-piece (1), lateral thigh and side-piece (2); two leg-pieces (3, 3); a foot-piece (4), and additional side-piece (5); and a sling cradle. When required for use, the thigh-piece (1) can be shortened or lengthened to the size of the patient's limb by relaxing the finger-screw seen at its under aspect, and pulling out or pushing in the one slide-piece upon the other; and can be narrowed or made broader by shifting one or other of the holes seen in the lateral thigh and side-piece (2) on the projecting male screws (*a a*), seen at the under surface of either side of the thigh-piece, and fixing it there by the corresponding female finger-screws. The lateral thigh and side-piece (2), as is evident, may be fixed on either side of the thigh-piece to suit a fracture of either limb, can be made of any required length, to extend to the short ribs of the patient for the purposes of counter-extension, having two slits above for the ends of the perineal band; and the one half may be placed at any angle with the other to suit the various bends of the body at the hip-joint, by alterations in the spring-catch, which locks the joint seen at its centre.

The required length for the leg can be secured by alterations effected in the position of the slides of the leg-pieces (3, 3) by loosening the finger-screws, near

to the figures (3, 3); and the breadth by similar alterations in the screws and slides at *b* and *c*. The joint (*d*) seen in the right hand leg-piece at the knee is to allow of the flexing and extending of the knee; and the spring-catch, seen a little below the letter (*d*), is used to fix the joint by placing the catch in the small hole in front of the letter (*d*), which there looks into corresponding holes in the other part of the leg-piece, entering into the composition of the joint.



The complete Splint, pulled out to its largest size.

The form and size of each piece of the splint have been most carefully determined by experimental observation, in order that the whole of the splint may be capable of being accurately adjusted, to suit the limbs of children or men, and the requirements of their varied fractures and dislocations.

As seen in the accompanying woodcut, the splint resembles the fracture-bed of Mr. Greenhow, and is more especially adapted for the treatment of bad cases of compound or complicated fractures or dislocations of the leg, ankle, or thigh. Several of such cases have already been most successfully treated upon it.

The interval between the leg-pieces is filled up by strips of bandage or india-rubber sheeting, as seen in the cut; one or more can be removed to allow of the dressing of the wound of a compound fracture, without disturbing the position of the limb in the slightest. This is found an immense advantage over the ordinary splints in the treatment of cases where the wound is large or extends round the limb; for by no other contrivance is it possible to cleanse and dress the wound, without considerable disturbance of the bandages, splints, and even of the limb itself, with consequent rubbing together or displacement of the ends of the bones, and accompanying pain and ill-effects to the patient.

The limb lies most securely upon the splint, as upon all others, when the cushions or paddings are thin; and where there is a compound fracture of the leg, it is by far the best plan to support the wounded part of the limb simply on the strips of bandage, as the dressing can be effected daily or oftener, if necessary, with the most perfect ease, by simply withdrawing the pieces of bandage, and thus exposing the whole circumference of the limb.

A scoop, placed under the splint at the injured part, will also receive the discharge escaping from beneath the dressings through the intervals between the strips of bandage, thus preserving the bed and clothes clean and wholesome even in the worst case.

When the foot of the patient is securely fixed to the foot-piece, any amount of extension can be made by loosening the finger-screws at (3 3), fixing the thigh-part of the splint to which the perineal band is affixed (for the purpose of counter extension), and drawing out the slides of the leg pieces by traction at the foot, and thus extending the leg. When the requisite extension is made, the whole can be securely fixed by again tightening the grasp of the screws. In the original splint the extension was effected by a suitable extending-screw, attached to the foot-piece; but it was found in practice, that it complicated, added greatly to the expense, and offered no compensating advantages over that already described. The extending screw was, therefore, abandoned, as well as some other screws which were fixed to the slides at *b* and *c*, for the purpose of expanding or contracting the breadth of the fracture-bed between the leg-pieces (3 3), and the simple slide motion at these parts is now alone retained.

The great, but actually little understood advantages of the sling posture, are secured by suspending the splint in the accompanying cradle. The form of the cradle portrayed in the cut is not quite that which Mr. Gibb now uses. It is capable of being taken to pieces, like the whole of the splint, by loosening the screws at *ff*, and removing the cross-bar, and as a joint exists at *ee*, the whole can be folded up into a convenient form; indeed, the whole splint and cradle can be wrapped up into a comparatively small parcel portable on the front of the saddle, or under the arm, to any distance without inconvenience.

The additional slide-piece (5) (seen in the first cut) can be used alone, or united with the foot-piece (4), in fractures or dislocations about the leg. It can also be attached to the lateral thigh and side-piece (2), and thus it forms a convenient long straight splint, applicable to fractures of the thigh, &c. The second woodcut illustrates the splint formed by the junction of the parts mentioned.

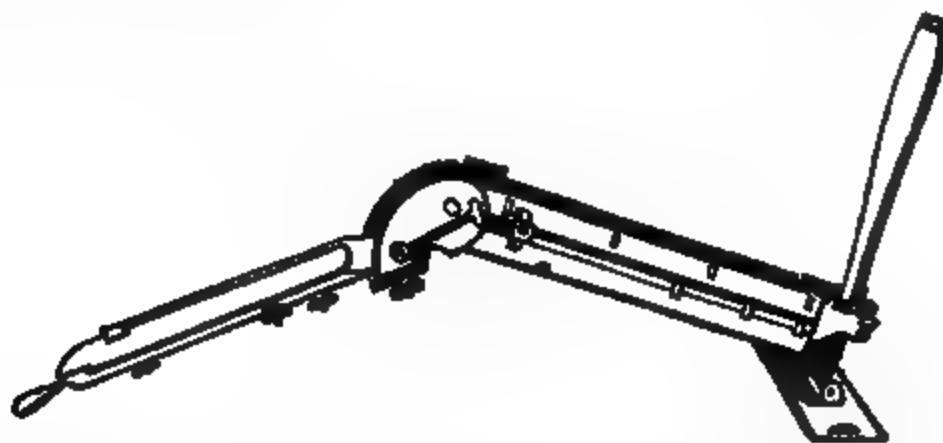
When the lateral thigh and side-piece are removed from the complete splint to form the long straight splint seen in the preceding cut, the resulting splint resembles in all respects the common Liston's, or McIntyre's double-inclined plane fracture-beds, and may be used for all the purposes for which these are suitable, having also the additional advantages of being capable of exact adjustment to the size of any limb, with movable pieces of bandage at the back of the leg, to enable the surgeon to inspect and dress all parts of a limb, with com-



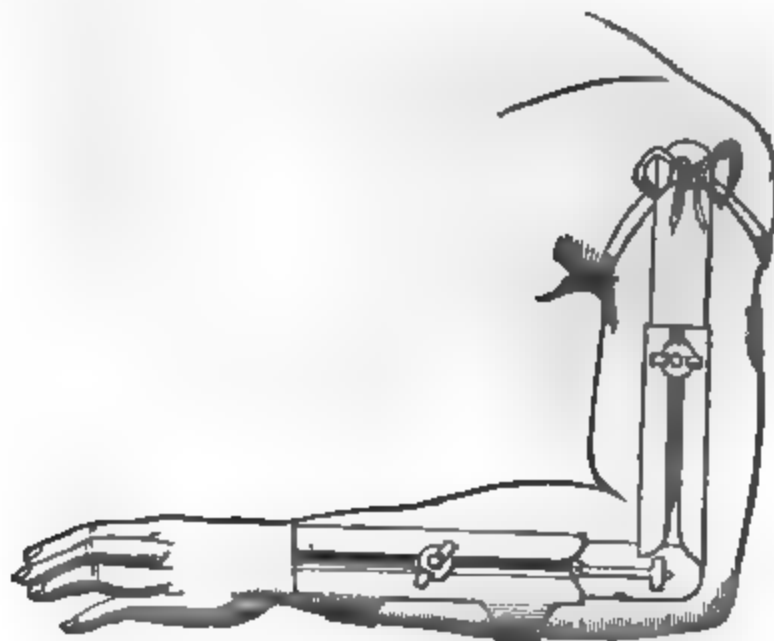
A long straight Splint, formed by joining the lateral Thigh and Legs slide together (which can be used with or without the foot-piece).

pound or other fractures, and the ability to hang it in a sling-cradle, if necessary.

The following cut shows this portion of the splint reduced to its smallest size, the scale being the same as in the others, and that when the complete splint is deprived of the lateral thigh-piece and cradle, a splint is formed similar to Liston's or McIntyre's.



The next cut exhibits the lateral thigh and side-piece applied to the arm, where it is applicable as a splint to any fracture of the humerus or elbow-joint. In practice it has been found useful in those fractures, and has the advantage of being capable of allowing extension to be made to the limb.



The expense of the whole splint, with the cradle, is scarcely greater than Liston's ordinary splint.



3. The "Speculum adapted for employment during operations on the mouth, under chloroform," which is recommended by Dr. J. Smith, is a very simple but

a very important addition to surgical appliances, for every one experienced in these operations knows how often he has been inconvenienced for the want of an instrument which will keep the mouth open, and at the same time present no impediment to the admission of air, or to the free course of the operation. The nature of this speculum and its application is rendered evident by the accompanying diagrams.

The instrument may be divided into three parts, viz:—

1st. The larger steel portion, adapted for at once holding back the edges of the lips, and keeping the jaws widely separate, on one side of the mouth.

2d. The elastic band, attached by one extremity to this, and intended to be passed round behind the patient's neck, and brought to the other side of the mouth, where,

3d. The flat hook is attached to it, and serves at once to keep the lips back at this side, and the whole instrument in its place.

The general configuration of the apparatus is given in the drawing, where the larger portion above mentioned is seen to consist of a piece of steel, bent into a semicircular shape, the two free extremities of which are again bent back so as to form two smooth hooks (1), intended to be introduced within the lips, and serving to retract them and the cheek. These hooks terminate by having their ends again turned inwards (2), so that from resting flatly on the internal surface of the cheek, they pass between the upper and lower jaws, which rest upon and are kept separate by them. If it were considered necessary these two ends might be covered with caoutchouc, or some other substance, for the purpose of rendering them more soft, and thereby protecting the teeth or gums impinging upon them from the chance of injury. At the other extremity of the instrument the hook (4) is attached, and these two metal portions are connected by the India rubber band (3), which passes behind the patient's head, and retains the apparatus steadily *in situ* until the operator thinks proper to remove it. The instrument could, by means of a joint and regulating screw, in the portion intended for separating the jaws, be made capable of adaptation to any size of mouth, or to whatever extent the jaws in different cases might open; but as this would detract from the lightness and simplicity of the apparatus, it would be better to have two of different sizes, since the distance to which the jaws may be separated varies considerably in different individuals, and, indeed, were it for children alone, a smaller one would be indispensably required.

4. Various means have been employed for inflating the lungs, with the view of restoring life in cases of asphyxia, or of poisoning with narcotic poisons; and, for this purpose, instruments have been contrived to fill the lungs with air, allowing each expiration to result from the spontaneous contractions of the thorax, assisted by artificial pressure upon that region. This expiration must, in consequence, be very incomplete, especially if the artificial respiration is continued for some time, and the amount of fresh air sent into the lungs at each inspiration must, in many cases, prove insufficient to excite the heart's action. To obviate this inconvenience, Dr. Marcet has devised an instrument which has the power of producing both a forced inspiration and a forced expiration, without the aid of external pressure.

The advantages of this instrument are:—

1. A large bulk of air can be introduced into the lungs, and these organs may be completely inflated and contracted at each inspiration and expiration.

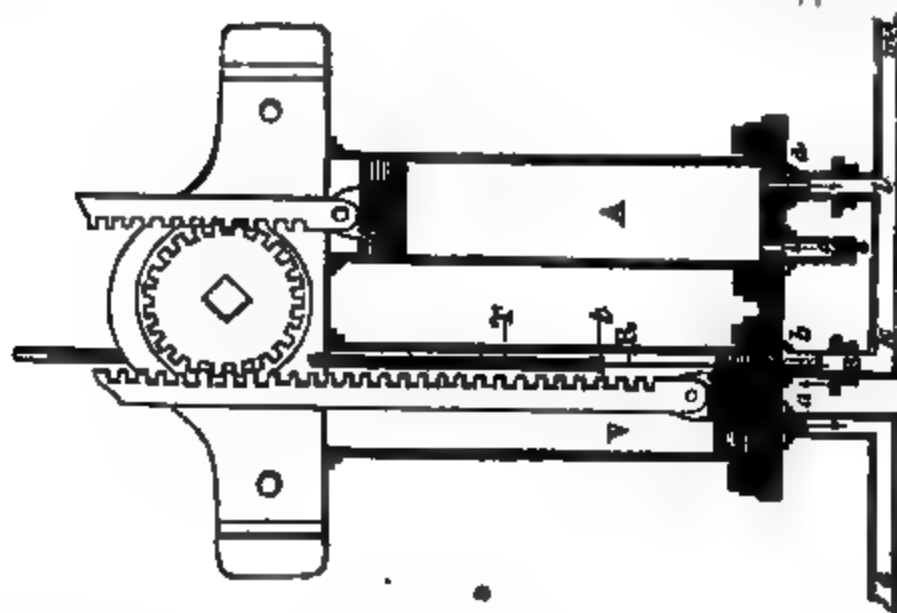
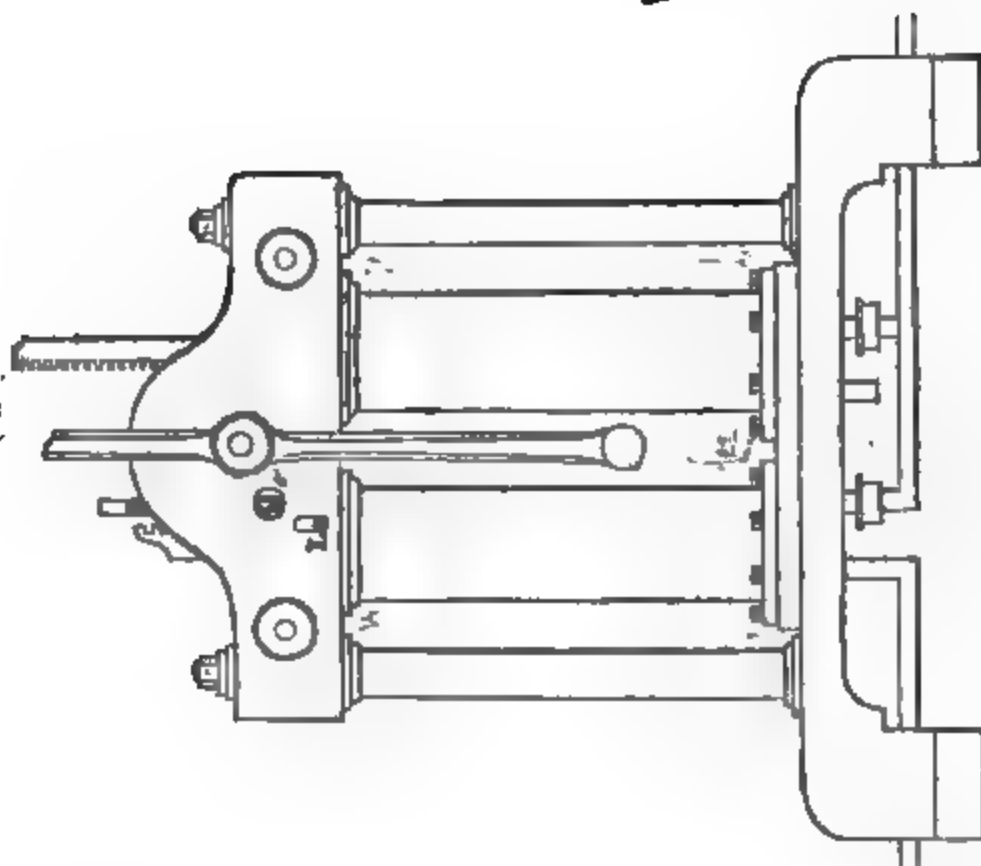
2. Artificial respiration may be performed for any length of time even in cases of comparative rigidity of the thoracic muscles.

3. There is no danger to anticipate from an excessive distension of the lungs.

4. From 20 to 26 cubic inches of air or of oxygen gas can be used to inflate the lungs eighteen times in a minute.

5. Assistance is not indispensable for the operator.

This instrument as illustrated by the accompanying sketch (and as constructed by Mr. C. Becker, philosophical instrument maker), is composed of two cylinders, V and A, enclosing two pistons, movable up and down by means of a lever, as in the case of the air-pump. Four valves, *a, b, c, d*, close two apertures in the inferior plate of each cylinder, each valve being movable in the direc-



tion shown by the arrows. The valves, *a*, *c*, *d*, are exactly similar to those used in the common air-pump, and are made of a piece of oiled silk tied over a small brass cube, perforated in its vertical axis, the oil silk overlapping only two opposite sides of the cube. The valve *b*, consists of a small brass cone, fitting exactly a conical opening in the inferior plate of the cylinder, and fixed to the vertical rod, *R*, which passes through it. The part of the rod extending under the cone is surrounded by a strong spiral spring, *S*, which rests above against the inferior plate of the cylinder, and underneath, against a small disk, screwed to

the end of the rod, so that the spring is forcibly shortened, reacting above and below, and keeping the little cone in its socket. To avoid breaking the spring, the rod is made to pass through a small cylinder, placed therefore between it and the spring, which, being rather shorter than that part of the rod, allows the little cone to be raised only just enough to admit the entrance of air into the cylinder, V. The rod finds its way through the piston without, however, affording any passage for air, reaching as high as the woodwork of the instrument, where its extremity may be seen through the aperture, *o*. Above the piston the rod is covered by a brass tube T, or sheath, movable up or down, and long enough to extend from the top of the instrument to the top of the piston, when as low as possible in the cylinder, V. This tube has two slits opposite each other, and is graduated so that one division corresponds to one cubic inch of the cylinder. The volume of each cylinder should be about 32 cubic inches, for the graduation of the tube the bulk of the piston is subtracted from the total volume of the cylinder. The tube can be fastened to the rod by a clamp, L, fitting in a hollow space inside the woodwork, which allows its being moved up and down to the extent of about a quarter of an inch, the clamp being tightened or loosened by means of a key. At the inferior extremity of the tube is a small disk, which checks the upward motion of the piston. A brass tube, *k, l, m*, connects the apertures closed by the valves *b* and *d*, and extends further to the right, to establish a communication between the cylinders and the lungs. The openings closed by the valves *a* and *c* are not connected with that tube, but communicate with the external atmosphere through the tubes *e* and *f*.

The lever of the instrument is worked with both hands, like that of the air-pump, raising the piston of one of the cylinders and depressing the other at the same time: when the piston is lowered in the cylinder, A, it closes the valve, *c*, by atmospheric pressure, and forces air into the lungs through the tube, *l m*, producing an inspiration; at the same time, the piston of the cylinder, V, being raised generates a vacuum, as the valve, *a*, is closed by the external pressure of the atmosphere, and the little cone or valve, *b*, forced into its socket by the spring; the spring must therefore be strong enough to resist the pressure of the atmosphere acting on the valve from beneath, and the friction of the rod inside the piston. As soon as the piston has reached the disk soldered to the end of the tube, T, the inspiration ceases, and the slightest effort upon the lever will now shorten the spring and raise the cone, *b*, when the air contained in the lungs will instantly rush into the vacuum, producing an expiration. The piston of the cylinder, V, is now depressed and the other raised, which causes the expired air to be expelled from the cylinder, V, through the orifice *e*, and fresh air to be taken in by the cylinder, A, which is used for the following inspiration. The amount of air to be introduced into the lungs may easily be regulated by means of the tube, which can be moved along the vertical rod, R. By loosening the clamp and raising the tube the bulk of air will be increased, and the reverse will take place when the tube is depressed. If the divisions engraved upon the tube, and visible through the opening, *o*, be made to coincide with the top of the rod, which is seen by the light transmitted through the two opposite slits of the tube, the amount of air to be employed for the artificial respiration may be at once regulated.

The operator who is about to make use of this instrument, having previously determined upon the amount of air which is to constitute an inspiration and expiration, and fastened the tube accordingly, moves the lever up and down, as in the case of the air-pump, taking care that a short interval should elapse between each inspiration and the following expiration; he must also avoid striking violently against the disk, which the slightest pressure from the piston will suffice to raise; the action upon the spring is to be continued until the expiration has entirely ceased. Another and a longer interval necessarily elapses between an expiration and the next inspiration, than that which occurs between an inspiration and the following expiration, during which time the operator gets rid of the expired air, and takes into the instrument a fresh quantity of atmosphere; this interval between expiration and inspiration occurs, however, in natural respiration, and does not interfere with the action of the instrument. Oxygen, or any other gas, may be easily substituted for atmospheric air, by connecting the ori-

fice, *e*, of the tube through which fresh air is brought into the cylinder with a receiver containing the gas, by means of a piece of vulcanized caoutchouc tube.

The power of this instrument to produce a phenomenon exactly similar to natural respiration can be easily illustrated by fixing the opening of a bladder to the end of the tube, *l m*, when the bladder may be filled with air, and completely emptied, being made, therefore, to act precisely like a lung. The same experiment may be repeated upon lungs extracted from the body of an animal, or left in the thoracic cavity, by introducing into the trachea a canula made to communicate with the tube, *l m*, of the instrument by means of a short vulcanized caoutchouc tube. On moving the pistons the lungs will be observed alternately distending and contracting, as if the animal was living, air penetrating into every one of the air-cells of this organ.

If the canula be introduced into the trachea of a dead animal before the occurrence of the rigor mortis, or after it has ceased, and artificial respiration produced, the thorax will be seen rising and falling, just as happens in natural respiration. When the experiment is made upon the dead human body, the same result is obtained, provided the lungs be in a comparatively healthy state. Dr. Marcet succeeded, but in one instance only, in completely dilating and contracting artificially the human lungs of a dead body, by introducing the canula into one of the nostrils, the other one and the mouth being maintained perfectly closed by an assistant. In this case the lungs were perfectly healthy, and the rigor mortis had entirely ceased. At other opportunities he had for experimenting, in the *post-mortem* amphitheatre of St. George's Hospital, it was found impossible to dilate completely the lungs by introducing the canula into one of the nostrils, the lungs being considerably, if not completely diseased, or the rigor mortis having not yet disappeared. There is, however, every reason to expect that artificial respiration will be easily performed, by the above means, upon the healthy human subject in cases of asphyxia from drowning or other causes, unless there should be a spasmodic action of the glottis, preventing the entrance of air into the trachea. The operation of tracheotomy however, is neither dangerous nor difficult to perform, and it might be resorted to, should the air introduced through the nose not find its way into the lungs.

The following experiments illustrate the practical utility of this instrument :

Experiment 1.—A small dog was made to inhale the vapors of chloroform, until the respiratory motions of the chest had completely ceased. The operation of tracheotomy was immediately performed, and a canula introduced into the trachea, firmly secured by an assistant, thus avoiding the use of a ligature. One minute after natural respiration had ceased, the lungs were fully inflated, and contracted with about ten cubic inches of air. After three or four artificial inspirations and expirations, the animal showed signs of life, and a desire to breathe, evinced by slight motions of the mouth and lips. The canula being then removed, the animal immediately took in a long breath, and continued breathing naturally. A few minutes afterwards, he completely recovered.

Experiment 2.—Chloroform was given to a little dog until breathing was no more perceptible. The heart was felt beating for nearly three minutes afterwards. One minute having elapsed after the heart had ceased pulsating, artificial respiration was commenced, tracheotomy having previously been performed. This respiration was continued for five minutes, but failed to bring the animal to life.

Experiment 3.—In this case, insensibility was produced upon a small dog by the action of chloroform. The respiration became weaker and weaker, the heart beating rapidly. Tracheotomy was then performed, and chloroform made to be inhaled through the nose and mouth, and through the canula, until respiration had completely stopped. The pulsations of the heart had then become very slow, and hardly perceptible. Artificial respiration was now commenced. After three or four deep inspirations and expirations, the animal moved his nose and lips, and on the removal of the canula immediately took in a long inspiration, followed by two others; the fourth occurred fifteen seconds after the third; the heart was then pulsating rapidly but feebly. After the fourth inspiration breathing again ceased. The head of the animal was immediately put under the open tap of a butt full of cold water, but without inducing respiration. The pulsations

of the heart had become very slow and weak. The canula was then again introduced into the animal's trachea, and artificial respiration was performed. Three or four deep inspirations and expirations sufficed to bring on the first signs of a desire to breathe; but artificial respiration was continued for two minutes longer. Upon the canula being removed, the animal took a long breath, and went on breathing naturally. He remained, however, in a state of stupor for about ten minutes longer before consciousness had returned, and then completely recovered.

Experiment 4—Artificial respiration was produced upon a little dog, whose natural respiration had been checked by the inhalation of chloroform vapors. The animal very soon showed signs of life; but the canula having accidentally been loosened, the amount of air forced into the lungs was considerably diminished. The dog moved his nose and lips for a few seconds, and again fell into a state of complete stupor, from which it was found impossible to rouse him.

Experiment 5—One of the dogs experimented upon a week previously was made to breathe the vapors of chloroform until respiration had ceased. Tracheotomy being again performed, and the canula again introduced, its lungs were inflated and contracted by means of the artificial respirator. A few minutes afterwards he completely recovered, and has never suffered since from the experiment.

Experiment 6.—A little dog was immersed into a butt, about four feet deep, and full of water; a large stone had been tied to the front legs of the animal, and a long string fastened to that stone, to enable his being removed from the water at a given time. The dog was left in the butt for exactly one minute, and the struggling ceased after fifty seconds. When taken out, he showed no signs of life: but, upon close examination, the pulsations of the heart were still felt, though very slow and faint. One minute more elapsed before artificial respiration was commenced, so that no breathing had taken place for two minutes. After filling the lungs with air, and emptying them three or four times, the animal began to show signs of life, and a violent contraction of the body occurred. The canula was removed, after a few more inspirations and expirations, and the animal immediately began to breathe naturally; insensibility continued, however, for five minutes longer, during which time the wound was sewed up, but after that time he entirely recovered. Four days afterwards the dog died with symptoms of secondary asphyxia; perhaps from pus and blood having found their way into the trachea, the wound being closed outside, or from a spasmodic contraction of the glottis, which prevented the entrance of air into the lungs; in every case where the animals experimented upon had recovered from the effects of chloroform the wound in the neck had been left open.

From the nature of the action of this artificial respirator upon a bladder or upon lungs extracted from the thoracic cavity, an objection as to its practical application might be raised from the sudden and rapid character of the expiration; the experiment upon a healthy dog under the influence of chloroform will show, however, that the resistance of the walls of the chest diminishes considerably by the rapidity of the expiration. At all events, it would be easy to obviate this inconvenience, should it really exist, by reducing the size of the orifice closed by the conical valve, so as to admit gradually the expired air into the cylinder.

Six Lectures on the Pathology of Strabismus, and its treatment by operation, delivered at the Westminster Hospital. By C. HOLTHOUSE, F.R.C.S.E., Assistant Surgeon to the Hospital, and Lecturer on Anatomy in its Medical School. 8vo. London, Churchill, 1854; pp. 116.

These lectures owe their origin to a circumstance which occurred last summer in one of the out-patient rooms of the Westminster Hospital. A young man presented himself with an ulcer on his leg, whose expression of countenance was so remarkable that it at once arrested attention, and whose history was calculated to provoke further inquiry. One eye appeared to be much larger than the other, and this appearance was found to be due to an operation for strabismus, which had been performed upon it in a metropolitan hospital about

eighteen months previously. Considering that this result could never have been contemplated by the operator, and that for this reason the operation must either have been improperly performed, or the case have been unsuited for the knife, Mr. Holthouse was led to infer that the true principal of treating strabismus could not be very clearly understood; and this inference had been confirmed by the cases which had fallen under his notice subsequently.

After these introductory remarks, the author passes to the anatomy of the recti and oblique muscles, and their actions, as bearing upon the operation, and in so doing he combats (we think successfully), the generally prevailing notion, that the straight muscles acting together can retract the eye. The apparent retraction, Mr. Holthouse affirms to be an act of depression produced by the orbicularis palpebræ, because "no such movement can be made to take place when this muscle is paralyzed, as in facial paralysis, while it can be effected when the recti are paralyzed provided the orbicularis remains unaffected."

By parity of reasoning it is inferred that the obliqui cannot draw the eye forwards, but though the author expresses his disbelief of these movements in the normal conditions of the muscles of the eye, he adds that:—

"Circumstances undoubtedly may and do occur, in which either retraction or protrusion may take place; viz. when the antagonism between these two sets of muscles is disturbed; in their natural condition they are so nicely balanced, that neither protrusion or retraction to any extent ever occurs; but if the power of either set of muscles is weakened or strengthened, then this balance is destroyed; and retraction or protrusion is the consequence. This has an important bearing on the operation for strabismus, for, as we shall see by and by, the division of one of the recti, by weakening the retractive force, relatively increases that of the opposing one; so that some degree of protrusion under these circumstances must always be looked for and discrimination must be exercised in determining what cases are, and what are not, proper for the operation."

This is evidently the point to which the author is most anxious to direct attention, and to which he considers the profession has not been sufficient alive when undertaking the operation for the cure of strabismus, though on its recognition depends in a great measure the success of that operation.

In the lecture on the phenomena of strabismus, it is stated that the distorted eye is frequently more prominent than its fellow, and that, if this be the case, an operation should be avoided, or only undertaken with great caution, and by the *subconjunctival* method:—

"The reason for refraining from interference is, that the tendency of the operation is to increase the prominence of the eye, so that if it were previously the fuller one of the two, the operation will increase this fulness, and the patient will but exchange one deformity for another. Under these circumstances it becomes a question, how far the appearance may be improved by the exchange. When the difference in the prominence of the two eyes before operation is but slight, I should recommend its careful performance in the manner to be presently pointed out, inasmuch as an eye that is but slightly fuller than the other, if parallel, is a less defect than a squinting one. But *when the apparent size of the squinting eye much exceeds that of its fellow*, by all means avoid the operation, a greatly protruding eye being more ungainly than an inverted one.

"The tendency of the operation to increase the prominence of the eye, is a favorable circumstance when the squinting organ is apparently smaller than the sound one, as it not only restores the parallelism of the two, but renders them equally prominent, and therefore symmetrical. Hence squinters thus affected form by far the most favorable subjects for operation."

In *An Inquiry into the actions of the Oblique Muscles of the Orbit*, written, it appears, in 1841, but now published for the first time, Mr. Holthouse denies to these muscles the power of producing strabismus, and shows the futility of dividing either of them in order to cure this condition. The facts which he has brought forward in support of the opinion "the office of the oblique muscles in the human subject, is not to rotate the eye either voluntarily or involuntarily in any of the directions that can be given to it by the recti," are original and conclusive. As respecting Sir Charles Bell's opinion that one action of the oblique is to give the cornea an upward and inward position during sleep, Mr. Holt-

house states that he has examined the eye during sleep in nearly 200 cases, and that the cornea is not in the position which Sir Charles supposed it to be.

In the lecture on the *Immediate Cause of Strabismus*, the fourth in the series, the author calls in question the generally received opinion that convergent strabismus is due to a weakened state of the external rectus muscle, and he affirms it to be rather owing to an opposite condition of the internal rectus. This he considers to be proved by the history of strabismic cases, by actual observation of the adductor muscle at the time of the operation, as well as by dissections after death. He does not deny the weakened condition of the external rectus in these cases, but he considers that the condition is the consequence, and not the cause of the disaster. The author admits his inability to explain the cause of some varieties of strabismus "in which dissection has revealed no trace of alteration of structure, or bulk of the nerves or muscles of the orbit," but he suggests that they may be owing to some lesion of that part of the encephalon in which is seated the co-ordinating or controlling power.

"If the strabismus which arises from an inequality of power of the orbital muscles has its analogue in the several varieties of club-foot, that of which we are now speaking may be allied to stammering and some other affections manifested in perverted muscular action."

In the lecture on the subjective phenomena of strabismus, Mr. Holthouse examines some of the principal theories which have been invented to explain the impaired vision which accompanies the deformity. The theory of disuse of the organ, which appears to have enlisted the largest number of advocates, he maintains to be disproved by the very curious fact (of which we were before unaware), that the division of the muscle which produces the deformity, *immediately* restores, or very much improves the vision. This sudden improvement of vision consequent on division of the muscle for the cure of strabismus, together with the impairment of sight, which is observable in cases of paralysis of any of the orbital muscles, lead our author to the conclusion that "in the majority of cases, the cause of impaired vision resides in the dioptric parts of the eye, which parts have undergone some change of form, or tension by muscular action."

He proceeds:—

"Of the important part played by the muscles in vision, abundant evidence is afforded, not only by the phenomena which accompany strabismus, properly so called, but by those which are observed in all cases, as far as my experience at present extends, in which the balance of power of the orbital muscles is disturbed sufficiently to produce distortion of the eye. In all those instances, therefore, of paralysis of the muscles supplied by the third nerve, as well as in those in which the abducens is paralyzed, of which I have given examples in a former Lecture, we meet with the same kind of defective sight; nor has the mere direction of the eye, or the condition of the pupil, anything to do with it, inasmuch as it occurs equally when the cornea, from paralysis or spasm, occupies any other position than inwards or outwards; equally in paralysis of the external rectus when the pupil is unaffected, as in paralysis of the external rectus when it is fully dilated.

"And this impairment of sight goes hand in hand with the paralysis of the muscles, it comes on with it, increases with it, and disappears with it, so that it is obviously not the result of disuse of the eye, and can only arise from the cause indicated.

"It is true an objection might be urged that the paralytic condition of the muscles, and the defect of sight, do not stand in the relation to each other of cause and effect, but that both may be consequences of the same cause; in fact, that the disease which has affected the third nerve, or the sixth, may have likewise implicated the optic. That this is sometimes the case there can be no doubt; disease about the base of the brain, or tumors occupying this situation, we all know may interfere with the functions of several of the nerves at a time; but then we always have symptoms by which the same may be recognized.

"Now, in the majority of cases of paralysis of the motor oculi nerve, there is nothing present which would lead one to infer that the optic nerve was implicated, none of the symptoms which characterize amaurosis, no insensibility to the stimulus of light; on the contrary, there is some degree of

intolerance. In short, the impairment of vision which accompanies paralysis of the motor oculi, or of the abducens nerve, is of a different character from that which results from affections of the optic nerve or retina.

“I think it, therefore, impossible to resist the force of such facts as these, which so clearly point to the muscles as the agents, both of the distortion and of the impaired vision. The mode in which they effect the latter, I imagine to be, by altering the form or tension of the eyeball, so that it is rendered either too much or too little refractive, or may in some instances be made to refract irregularly.

“The celebrated Dr. Young and the Astronomer Royal both suffered from irregular refraction, so that the rays which diverged vertically from an object, were not brought to a focus at the same distance as those which diverged horizontally from the same object, and thus impaired vision resulted.

“That the refractive condition of the eye may be materially altered by the action of belladonna I presume most of you are aware. The eye is rendered highly presbyopic, in consequence, as I believe, of the ciliary muscle by which the focal distance of the healthy eye is regulated, being paralyzed by the action of the narcotic.

“Now, the impaired vision which results from strabismus is more nearly allied to presbyopia than to any other defect, as you will be convinced of, on comparing the subjective phenomena of strabismus with those which follow the application of belladonna to the eye, or from arming the latter with a deep concave lens.

“I will read you a few notes of an experiment I performed on my own eye in confirmation of this position.

“ABSTRACT OF RESULTS OBTAINED BY THE APPLICATION OF BELLADONNA TO THE RIGHT EYE AT HALF-PAST NINE, P. M., SEPTEMBER 14, 1840.

“In reading or writing the unaffected eye only is used, and on closing it not a letter can be distinguished by the other, although the lines of print or writing with their interspaces can be discerned with very undefined outlines. With the greatest difficulty, the words

‘PRINTING AND PUBLISHING’

can be made out in the title-page of the *Author's Assistant*, and this is rather guessed at than distinguished.

“The only difference observable on moving a book to or from me is, that the lines with their interspaces become more distinct as the book is moved away, but, in proportion as these become more defined, so the type becomes smaller and smaller, and appears at a much greater distance than its real situation. On approximating the book, the contrary results take place, and the definition becomes so very indistinct that the lines and their interspaces appear almost of the same hue. But though they appear thus, when the good eye is closed, no distinct second image is formed when both are open, only there is an indistinct cloudiness before the narcotized eye, which interferes with the comfortable vision of the other.

“The power of measuring distances is also impaired; thus, when I commence writing, I generally do so above the paper, from not clearly seeing when the point of the pen comes into contact with the paper. This defect is not remedied by closing the narcotized eye, and therefore is independent of it, and to be attributable either to the measuring distance being generally performed with the other eye, or, what is more probable, from this faculty depending on the simultaneous action of both eyes.

“On placing a convex lens before the narcotized eye, vision becomes distinct and perfect; on adapting it to the sound eye the vision of this is more distinct than without it, as none of the floating haziness before the other eye is now observed.

“This high state of presbyopia came on gradually, a few minutes after the application of the belladonna was made; the objects first appearing smaller, and the focal distance being greater; thus, in reading, the words on the left half of the line were seen of their natural size, with the left eye, and those on the right much diminished with the right or narcotized eye.

“The latter soon ceased to distinguish the words, and then the left only was

employed in vision, while the right impeded it, with the indistinct haziness, so that vision was clearer when this eye was closed.'

"Now, if such results as these can be produced by paralyzing the ciliary muscle, it is surely not unreasonable to infer that a loss or increase of power of one of the recti muscles, by altering the form or tension of the eyeball, may interfere with its adjustment for distinct vision, and so occasion the phenomena we are endeavoring to explain."

In conclusion, we would only add, that the many valuable observations and facts contained in these lectures recommend them very strongly to the attention and perusal of medical men.

Practical observations on Aural Surgery, and the nature and treatment of Diseases of the Ear. By W. R. WILDE, F.R.C.S., Surgeon to St. Mark's Hospital, Honorary Member of the Royal Medical Society of Stockholm, &c. 8vo. London, Churchill, 1853, pp. 506.

In this valuable and truly practical work, the history, symptoms, causes, mode of treatment, and results of the most frequent and remarkable diseases of the ear, are set forth with a clearness and comprehensiveness deserving our highest meed of praise. The work is divided into eight chapters, with an appendix on deaf-dumbness; the first three chapters being devoted to the bibliography, diagnosis, and statistics of ear diseases, and the remaining five to the diseases incident to the various parts of the organ of hearing.

In the chapter on diagnosis, Mr. Wilde lays much stress on the importance of carefully examining the organ.

"In making examinations of the meatus and membrana tympani, the chief requisite is a strong direct light, transmitted without interruption to the tympanic membrane, or that portion of the passage which we wish to examine; and for this purpose no artificial illumination is equal to the sun's rays." Of the various specula in use, Mr. Wilde prefers the short conical tube, as the simplest and most effectual instrument for examining the condition of the membrana tympani, and the external auditory canal.

In investigating the condition of the middle ear, Mr. Wilde employs the Eustachian tube catheter of Kramer. For our own part, we consider this instrument far inferior to that of Mr. Pilcher, or that of Deleau, and Mr. Wilde himself admits that "the slightest movement on the part of the patient, either of the anterior naris, which is irritated by the foreign body, or the top of the pharynx, where all the parts concerned in deglutition are more or less strained and excited, may disadjust the instrument; the slightest effort at deglutition, even the act of swallowing the saliva, will often effect this." We may add, that much experience in the employment of this instrument, has convinced us, that it is not only difficult to maintain it in its position, but that air or liquid, injected through it, scarcely ever reaches the tympanum. The cases which call for the use of this instrument are much more rare than is usually supposed; and upon this point the two following aphorisms by Mr. Wilde cannot be too constantly borne in mind: "Whenever the patient is himself able to inflate the tympanum, never use any artificial means to do so." "Whenever there is reason to believe that the cavity of the drum is inflamed, carefully abstain from all poking with catheters, or any attempt to introduce foreign substances into that delicately organized portion of the animal machine."

On the practice of indiscriminately probing and syringing the ears without a proper inspection of the parts, Mr. Wilde animadverts with some severity, and we think with justice.

In the chapter on statistics the author gives a table of 2385 cases of ear disease occurring at St. Mark's Hospital; and from an abstract of 200 of these the following results were obtained.—

Of the 200 affected 101 were males, and 99 females, their ages being in the following proportions: Under 5 years, 4; from 5 to 10 years, 19; from 10 to 20 years, 63; from 20 to 40 years, 82; from 40 to 60 years, 29; above that age, 3.

In 27 instances both ears were similarly and nearly equally affected. In 100 instances, both ears were diseased, but varied considerably on each side as re-

garded the duration, hearing distances, morbid appearances, and, in some cases, the cause. In 35 cases the right, and in 38 the left ears alone, were affected.

In 27 persons the disease was of less than one month's duration; in 40 it had been in existence from one to 6 months; in 17 from 6 to 12 months; 45 persons were affected from one to 5 years; 29 from 5 to 10; and 34 over that period.

70 could not hear the watch under any circumstances; 4 heard on its being pressed against the auricle; 61 on merely touching that part; 125 within 6 inches; 22 from that distance to 3 feet and upwards; and in 18, the hearing distance was either normal or unrecorded.

Tinnitus was present in 182 cases; in 58 there was none.

In 115 instances the patients had experienced pain in one or both ears, at some particular period of the disease; while in 124 they stated that they never had had pain.

The disease was attributed to cold in 63 cases; to scarlatina in 14; to fever in 8; to measles in 3; to influenza in 3; to scrofula in 4; to syphilis in 2; to bathing in the sea in 5; to injury or accident in 11. It occurred after parturition in 3; after erysipelas in 2; after small-pox in 1; after intemperance in 1.

The auricle was healthy in 264 cases; it presented congenital peculiarities in 10, and was diseased in 26.

The external auditory canal was normal in 68 cases; dry and devoid of cerumen, with the membrane whiter than natural and slightly wrinkled, or presenting towards its outward margin a few dry scales, in 78; it was coated with discharge, the lining thickened, and frequently of a pink color, or vascular, in 83 instances; and of these 18 had polypi growing from some portion of the canal. In 26 the canal was inflamed; in 9 its walls were so much thickened or approximated as to give the external auditory aperture the appearance of a mere slit. Bony growths were presented in 4; and a few cases occurred of condylomata, and other protuberances filling up the meatus.

The state of the membrana tympani was found natural in only 10. In 176 it was thickened and opaque, in whole or in part; these opacities varying as much in shade as the same forms of disease in the cornea, from a slight nebula to that of a dense white leucoma. The amount of polish was various; in many cases the surface resembled muffed glass; in others, although there was considerable opacity, the normal shining character was preserved. In 121 cases the membrane was more or less vascular, either uniformly so, or the vascularity presenting a zone round the inferior attachment of the membrane, not unlike that seen in cases of corneitis. In 53 the membrane was more or less collapsed, and most of these showed evidences of thickening and opacity. In 48 the membrane was perforated, the size and position of the aperture presenting great variety; while in 13 the great bulk of the membrane was removed. In 22 the membrane could not be seen, owing to obstructions in the auditory canal.

The state of the middle ear and Eustachian tube is not so satisfactorily recorded. In 89 cases there is no record of its condition; in 129 it was inflatable, and in 73 uninflatable.

The state of the throat was normal in 181 cases out of the 200; "a fact," observes Mr. Wilde, "which goes far to disprove all that has been written upon what has been termed throat-deafness."

The chapter devoted to the subject of myringitis, or inflammation of the membrana tympani, is well worthy of perusal; and we think Mr. Wilde has clearly established the fact, that a large portion of the incurable cases of deafness which are met with in practice have originated in inflammation of this membrane, and of the tympanic cavity.

In the acute form of this disease Mr. Wilde recommends the free abstraction of blood by leeches, applied not behind the ear as usually practised, but just within the meatus, the auditory canal having been previously filled with cotton wool, to prevent them going in too far. The bleeding should be encouraged by warm applications and poultices; and, if necessary, kept up by relays of leeches for ten or twelve hours together. Having leeches, fomented, and purged, James's powder, combined with small doses of blue-pill and henbane, should be given; while in the more advanced stage of the disease counter-irritation behind the ears may be usefully employed. Mr. Wilde also places great reliance on mer-

cury, given to the extent of affecting the gums, and under the influence of which the patient should be kept for some days. He cautions the profession against treating these inflammatory affections as merely nervous. "A very curious impression," he observes, "exists among, and is too frequently acted on by, the profession, that earache is a neuralgic affection, to this very general mistake must we attribute the practice so frequently, and empirically resorted to, of pouring into the ear the various nostrums, sedatives, and stimulants calculated to allay pain in external parts. So rare, however, is true neuralgia of the ear, that Dr. Kramer says he 'never observed earache without evidence of inflammation, either of the meatus or of the membrana tympani.'" Though not prepared to go this length with Dr. Kramer, Mr. Wilde admits that he has not met with more than one or two instances in which he could not discover some direct visible cause for it; and therefore he concurs with Kramer, in denying "to those persons the right of pronouncing a decisive opinion on the existence of a nervous otalgia who do not understand investigating the membrana tympani in bright sunshine, and with the aid of the speculum; and who are not in the habit of doing it."

As the majority of the inflammatory affections of the ear terminate in suppuration, it necessarily follows that otorrhœa must be a frequent accompaniment of deafness. Mr. Wilde has accordingly devoted one chapter exclusively to its consideration. It is a disease which originates in infancy and youth, seldom appearing in middle life, and still less frequently in advanced years, and if there is one disease more than another which is indicative of a strumous diathesis, it is otorrhœa. This commences either by a thin whey-like discharge from the meatus, arising from a vitiated state of the lining of the tube and membrana tympani, or by suppurating glands, communicating by means of a fistulous opening with the auditory canal. It is a very frequent sequel to the eruptive fevers, especially scarlatina; and in the latter it occurs in three ways: either by direct extension of the inflammation of the skin into the external meatus and membrana tympani, by the diseased condition of the mucous membrane of the throat, passing up through the Eustachian tube, and producing suppuration in the cavity, and perforation of its external septum, or, lastly, by the abscesses which take place in the neck, and around the meatus, opening into that tube, and there inducing and maintaining, even after they themselves have healed, otorrhœa from the diseased state of this portion of the organ.

With respect to the nature of the discharge, it varies at different times, and even in the same individual, from a thin, starch-like seromucous fluid, containing scales of epithelium, to a thick yellow pus. It is sometimes sanguineous; and in such cases the disease is usually complicated with polypus. It is often of so acrid a nature as to excoriate the auricle, and even the side of the neck; while in other cases it is exceedingly fetid.

The fetor of the discharge is supposed by many to indicate caries, but this is not the fact, most ear-discharges becoming, after a longer or shorter period, more or less fetid. From what we have just stated it would appear that the seat of these discharges may be either in the external auditory canal, in the tympanum, or in both together, and in most chronic cases, according to our experience, the latter is the more frequent, so that the division of otorrhœa into internal and external, which has been made by some authors, can only hold in a limited number of cases. This is somewhat at variance with Mr. Wilde's statistics of the disease, inasmuch as out of 647 cases of otorrhœa, 55 only had the membrana tympani either partially or wholly destroyed.

A question of some importance suggests itself with reference to these chronic ear-discharges. Is it advisable to endeavor to stop them, or are we to be content with merely washing out the ears with a little water, and leave the discharge to take its own course? Mr. Wilde is an advocate for the former method of treatment; and agrees with Saunders that no argument can be adduced against the cure of this disease that is not equally conclusive against all others. Mr. Wilde recommends a case of simple external otorrhœa, to be treated with mild astringent lotions, such as the liquor aluminis compositum of the London Pharmacopœia, or the liquor plumbi, which may be poured into the ear till it fills up the meatus, and allowed to remain there for a few minutes. Syringing with plain

tepid water should be insisted on, twice a day, or oftener, according to the quantity of the discharge, while the surface of the meatus should be painted with a solution of nitrate of silver (ten grains to the ounce) every second day. Along with this local treatment general remedies must be adopted, especially where there is a constitutional taint. Cod-liver oil and Peruvian bark are those which Mr. Wilde has found most conducive to correct the strumous habit.

When the otorrhœa is complicated with polypi or caries, its cure is always more tedious and uncertain. The former are very difficult to be completely eradicated, and till this is effected, the otorrhœa will continue, spite of all remedies.

Caries and necrosis of the temporal bone add much to the danger of the disease and require a different mode of treatment. The inflammation is liable to extend to the brain and its membranes, and so produce fatal results. In the majority of these instances Mr. Wilde is of opinion that the disease has proceeded from without inwards; and what was originally an otorrhœa, from an inflamed mucous and periosteal membrane, has spread thence to the bone itself; hence he concludes, by entreating his professional brethren to examine with greater care diseases of the ear, to be more guarded in the opinions they give with respect to aural discharges, and instead of leaving them to nature, and promising patients that they grow out of them, to endeavor to heal them in their early stage, as a class of diseases which, independent of their unseemliness and injurious effect upon hearing, may at any time give rise to symptoms which may prove destructive to life.

We have derived much satisfaction from the perusal of this work, and can conscientiously recommend it as well worthy of the high reputation of its author.

The Pathology and Treatment of Stricture of the Urethra, both of Male and Female: Being the Treatise to which was awarded the Jacksonian prize for the year 1852. By HENRY THOMPSON, F.R.C.S., M.B., Honorary Surgeon to Marylebone Infirmary. (8vo. London, Churchill, 1854. pp. 424.)

The subject announced on the title of this volume, has during the last few years furnished the profession, and even it must be confessed the non-professional public, with a great number of monographs professing to elucidate it in some one or more of its relations. Perhaps there is no other single question in the wide range of human pathology, which has of late been so frequently discussed through the agency of the periodical press, or which has in one way or another been so prolific of authorship.

If the dictum of the late Mr. Colles, of Dublin were true, that organic stricture of the urethra is a 'very uncommon disease,' we might conclude that the subject had already received sufficient attention, if indeed it had not been rendered too prominent, and been endowed with an importance not warranted either by the frequency of its occurrence, or the gravity of its consequences. Without assenting however altogether to the sentiment expressed by that experienced surgeon, we are quite certain that real organic contraction of the urethral canal is a much less frequent affection than some appear to suppose. The sum total of the evidence of its existence in certain cases which have come under our own immediate notice, has been unquestionably resolved into the awkwardness or inexperience of the operator who has discovered it. Nothing is more certain than the fact that a careful and educated hand will easily pass a full-sized instrument into the bladder for patients who, it may be, during months previously have been suffering all the tortures and the injury which a rough or inexperienced manipulator will inflict with small sounds, in the belief that narrow, perhaps almost impassable stricture of the urethra exists. All the symptoms of the affection may be present while the canal possesses an ample patency, and the skill and shrewdness of the surgeon are no less exemplified in detecting the real nature of such a case, than in conducting the treatment of the true organic disease to a successful issue.

But notwithstanding the consideration which has apparently been bestowed upon the subject of urethral stricture, and the existence of numerous memoirs relating to it, it is to be presumed that the council of the College of Surgeons

entertained an opinion that inquiry was still needed, at least in reference to some points connected with it, and that these were comprehended under the very important heads of pathology and treatment, according to the terms proposed as the subject of competition, and adopted by Mr. Thompson as the title of his work. As might be anticipated, therefore, the scope and design of the volume before us differ from those of any of its predecessors, in some important particulars. While hitherto the numerous writers on stricture have almost invariably been satisfied with giving their own individual experience alone, in relation to some peculiar method of treatment, or indeed in some cases by furnishing *a priori* suggestions merely, our author has aimed at presenting a comprehensive review of all past experience, and has endeavored to bring to the test of careful scrutiny the various proceedings which at one time or another have been presented to the notice of the profession, for alleviating or curing the disease in question. How far he has succeeded in the attempt we shall give our readers the means of judging for themselves, by presenting them with a brief outline or summary of the work.

Mr. Thompson devotes his first chapter to an exposition of the anatomy and physiology of the male urethra, giving a very complete, at the same time succinct account of the most recent researches relating to these interesting subjects. Not satisfied with collating the labors of previous observers, he has embraced some very ample opportunities which have been afforded him of making original dissections, and he has recorded the results of these in reference to the measurements, relations, and direction of the canal. He draws attention especially to the difference which exists between the length of the urethra in the living and dead subjects, and grounds these upon certain important deductions affecting both the mode of observing pathological preparations, and the practice of employing instruments in the urethra. On this subject our author may speak for himself:—

“Accordingly, with a view to the solution of this question, I have pursued the following course with a considerable number of bodies, which it has fallen to my lot to examine. The penis and bladder having been carefully removed from the pelvis, in the usual manner, the entire passage is laid open along the upper aspect. The parts are then placed, being first moderately extended, upon some smooth polished surface, as on a common earthenware dish, and so permitted to take, by their own elasticity, any form or length, which their component structures may determine. The measuring tape is then applied. The average result of the application of this process to sixteen adult bodies, is as follows:—

TOTAL LENGTH, from anterior border of uvula vesicæ to meatus		
urinarius externus,	.	8½ inches.
Dividing the canal in the usual manner into spongy, membranous,		
and prostatic portions, we have—		
Length of <i>spongy portion</i>	.	6½ “
“ <i>membranous ditto</i>	.	¾ “
“ <i>prostatic ditto</i>	.	1½ “
		—
		8½

“The greatest measurement was 9 inches, the smallest 7½ inches. Of the 16, no less than 10 presented measurements which did not deviate more than a quarter of an inch from the average, and ranging within three-eighths of an inch only; that is to say, between 8½ and 8¾ inches inclusive.

“Mr. Briggs, formerly of the Lock Hospital, has made some investigations into the subject, which came to my knowledge since many of the *post-mortem* measurements just recorded had been ascertained. His experiments were made upon the living subject; and, inasmuch as the practical benefit of these researches must be found in relation to the use of instruments during life, it is confessedly of more importance to ascertain, if possible, the length of the canal in that condition, than after death. He states, that the average length of the urethra is about 7½ to 7¾ inches. I have, therefore, embraced opportunities of testing his method, and this in very many instances, and have been fully convinced of the correctness of his observations.

"It will therefore be borne in mind, that these two measurements of $7\frac{1}{4}$ inches and $8\frac{1}{2}$ inches, respectively, relate to the average length of the urethra in the two conditions of life and death. That this difference exists, it will be particularly important to recollect, since all accurate researches into the pathological anatomy of stricture are, of necessity, confined to an observation of the parts, *after death*, while, in relation to treatment, the measurement *during life* is that which alone must be remembered."

Each of the structures composing the urethra, as well as those which are connected with it, come under consideration, including the perineal muscles, the muscular tissue of the canal itself, the fasciæ, the erectile tissues, &c. In connection with the last-named structure, Mr. Thompson has for the first time clearly demonstrated the true arrangement of a fibrous partition existing in the bulbous part of the corpus cavernosum, and given drawings of it from specimens taken from fourteen bodies, now forming preparations sent by him to the museum of the Royal College of Surgeons. The bearing of this upon operative procedures in the middle line of the perineum in connection with the subject of hemorrhage is thus alluded to:—

"It would appear, then, that the relation of structure to the question of hemorrhage stands nearly thus:

"That the entry of the arterial branch of supply at about a half or three-quarters of an inch before the posterior extremity of the corpus spongiosum, renders incisions at this point liable to become the cause of considerable hemorrhage. That the existence of several fibrous partitions in the part posterior to the entrance of the artery, and especially one in the middle line, may tend to render incisions into that part of the bulb so defended, less productive of hemorrhage than in parts where these do not exist.

"But when the difficulty, it may be said impossibility, of hitting the exact line of this slight partition, as may be proved on the dead body, is taken into consideration, it cannot be seriously argued, I conceive, that the prevention of hemorrhage depends upon the accomplishment of so delicate an operation. No doubt but the median line in sections of the bulb is the line of safety; and why? Because a short branch of the pudic enters it *on each side*, close to which, if an incision be made, the artery might almost as well itself be opened. But if the section lie equidistant, or nearly so, from the two vessels, the minute meshes of erectile tissue intervening between the section and the artery, entangle within themselves the coagula which are formed, become choked or blocked up, and so conduce most readily to the checking of hemorrhage, more especially if this be favored by external cold applications."

Passing over an ingenious discussion of the functions of the urethra and surrounding muscles, in which certain somewhat original views are propounded, we shall present our readers with the following very clear and methodical digest of the anatomy and physiology of the organs described, which closes the chapter given to their consideration:—

"1. That the urethra is composed of a delicate and sensitive mucous membrane, exceedingly vascular, and well supplied with nerves, the area of which is increased by numerous small glands and follicles; and that it is closely connected by its sub-mucous areolar tissue with *involuntary muscular fibre in every part of its course*, the distribution of which is not quite equal in quantity throughout.

"2. That, in some parts lying between the two, in others, often interlacing with these contractile fibres, but for the most part, lying in longitudinal bundles beneath the mucous membrane, and united by transverse fibres, is also a varying amount of the *yellow elastic tissue*.

"3. That in the prostatic and in the spongy portions of the urethra, the glandular and erectile structures respectively, which lie next in order to the above-mentioned contractile tissues (proceeding from within outwards), are both largely composed of involuntary muscular fibres, and enveloped by an outer layer of the same, which, while they act by evacuating, in either case, the contents of the organ,—in the one, a glandular secretion, in the other, the blood supplied for erection, form also an agency, which, in certain states, is brought to act more or less on the capacity of the urethral canal, and this agency may be somewhat increased by the co-operative action of the accelerator urinæ muscle.

"4. That in the membranous portion, there is also *close contact of voluntary muscle*, the disposition of the fibres of which is such, that it cannot be doubted, that whatever may be its degree or extent, its function is to close the canal at this point, the sphincteric character of the muscle being most strongly indicated by its structure, as well as by what we infer respecting its actions, as manifested by phenomena both natural and morbid.

"5. That not only does vascular or erectile tissue surround the whole of the spongy part of the urethra, but that a thin layer of it encircles the membranous portion also, and that from the peculiar structure and function of this tissue, laceration or division of it may be attended with considerable loss of blood.

"6. That while the prostatic part is movable to a small extent in a direction upwards and downwards, in obedience to muscular action, the membranous is nearly fixed and constant in position, from the application of unyielding structures (fasciæ) to it, in such a manner as greatly to limit the mobility of the part; and lastly, that, within certain limits the spongy part is movable in any direction, the bulbous portion being less so in the ratio of its proximity to the anterior layer of the deep perineal fascia by which it is partially retained *in situ*, as well as by the corpora cavernosa, and by the triangular ligament above, uniting the penis to the pubes. The anterior two-thirds of the passage (more or less in different subjects) being for the most part perfectly free and mobile."

The second chapter is devoted to the classification and pathology of urethral stricture. All contractions of the urethra are regarded as classifiable in to one or other of two categories—"they possess a natural tendency either to be PERMANENT or to be TRANSITORY as regards their character of duration." Transitory strictures are considered as naturally subdivided into those which are due either to local inflammation or congestion,—inflammatory, or to unwonted muscular action either of the voluntary or involuntary fibres, denoted spasmodic; and the reasons which have decided the author to adopt this arrangement are given at some length. The pathology of urethral stricture is next considered, and in a manner which evidences the very remarkable amount of labor which Mr. Thompson has bestowed upon this important portion of his subject. In order to obtain an accurate estimate of the various physical characters possessed by organic stricture, its usual seat and situation, and the results to which it gives rise in other parts of the genito-urinary apparatus, as well as in neighboring tissues and organs, he made a personal examination of every specimen contained in the numerous museums of London, Edinburgh, and Paris. Thus in almost every page of this part of the work, we meet with references made to specimens which possess more than ordinary importance, or which are adapted for the purpose of illustration, and in the appendix a detailed account of the preparations referred to is subjoined, with the number and such other particulars respecting each, as may enable the reader to examine it for himself if disposed. In this way not less than 300 specimens of stricture were examined, besides an almost equal number of preparations of the bladder, kidney, &c., which exhibited some related morbid condition. Such an inquiry alone could suffice to set at rest the disputed points in connection with the locality of stricture; and it was the previous want of such a one, that has produced the most discrepant statements by our most classical writers, and experienced surgical authorities. Observers had recorded the vague result of their own impressions, for the most part as obtained while passing instruments on the living. In illustration of this, Mr. Thompson has quoted and collated the opinions of eleven or twelve of the highest authorities, both English and French, from the time of Hunter to the present day; and the evidence thus afforded is of a most conflicting character. The result of his own examination may be quoted here:—

"In examining the museums named, I have personally submitted to a close and careful inspection not less than three hundred preparations of stricture of the urethra, of which I possess notes made on the spot of two hundred and seventy, the rest being examples which, from decay or other circumstances, it was impossible correctly to classify.

"These examples may all be comprehended by the three following classes —

"1. STRICTURES OCCURRING AT THE SUB-PUBIC CURVATURE, *i. e.*, at the junction between the spongy and membranous portions and its neighborhood; the latter

term being understood to comprise an inch of the canal before, and three quarters of an inch behind that point, thus including the whole of the membranous portion.

“The junction itself is the point at which stricture is most frequently situated. Next is the extreme anterior boundary of the division, a spot which is one inch in front of the preceding, and almost as frequently affected; while, between these two points, six examples of stricture are met with for every one behind the junction, in which latter situation, therefore, they are very uncommon. Most rarely is a stricture found so far back as the posterior part of the membranous portion.

“II. STRICTURES OCCUPYING THE CENTRE OF THE SPONGY PORTION, i. e. a region extending from the anterior limit of the preceding, to within two inches and a half of the external meatus, and measuring therefore about two and a half to three inches in length.

“III. STRICTURES OCCURRING AT THE EXTERNAL ORIFICE, AND WITHIN A DISTANCE OF TWO INCHES AND A HALF OF IT.

“The following is an analysis of the 270 preparations referred to; they exhibit 320 distinct strictures:—

“Total number of strictures, 320							
“	in Region I.	. . .	215	or 67	per cent.	on the entire number.	
“	“	II.	. . .	51	or 16	“ “ “	“
“	“	III.	. . .	54	or 17	“ “ “	“
<hr/>							
320							
“Of these,							
“There were	185	examples of one stricture only,	situated in	Region I.			
“	“	17	“	“	“	“	Region II.
“	“	24	“	“	“	“	Region III.
“	“	8	cases in which the urethra was strictured	in all three Regions.			
“	“	10	“	“	“	“	in Region I. and II. only.
“	“	10	“	“	“	“	in Region I. and III. only.
“	“	13	“	“	“	“	in Region II. and III. only.

“Lastly, I may confidently assert that there is not a single case of stricture in the prostatic portion of the urethra, to be found in any one of the public museums of London, Edinburgh, or Paris. I am disposed to believe that some observers have been deceived in reference to it, or that it owes its supposed existence to inferences drawn from the results of examinations of the living body, which can by no means be admitted as evidence on this subject.”

Our limits will not permit us to notice the long and detailed description of the form and other characters which organic stricture is liable to assume, or of the pathological conditions of allied organs which may result from the affection; neither the very complete account presented us of all that is known respecting growths into the urethral canal. The much vexed question of impermeability, however, may be excepted, as to this our author appears particularly to have directed his attention. He comes to the conclusion that organic obliteration of the urethral canal sometimes although unfrequently takes place, and that it has rarely, perhaps never, arisen from any other than traumatic causes, such as wounds or severe contusions, which lacerate or destroy a portion of the urethra. In these cases, fistulæ of course exist; three examples are pointed out in the museums of London.

Proceeding to the third and fourth chapters which treat of the symptoms, pathological effects, and cause of organic stricture, we find that the same laborious pursuit of well-ascertained facts has characterized our author’s investigation in relation to this portion of his task. Not satisfied with accepting the details found in the beaten track of his predecessors, he has presented what appears to be a most minute and truthful history of stricture, its causes and results, deduced

from no less than 220 cases carefully reported at full length, many by himself, several of which are given in the appendix *in extenso*, with the addition of a few brief practical remarks upon each. The whole are, however, so placed in a tabular form, that every particular of importance respecting the causes, duration, and consequences in relation to any one of the number, may be ascertained at a single glance. This table is also analyzed, and the result is brought into one view at page 135.

An interesting and highly important practical essay on the pathology of strictures which are only of transient duration, forms the fifth chapter. The pathology of spasm is discussed at great length, and its multitudinous causes described. We wish to call the reader's attention particularly to that portion of it which relates to the influence of the gouty diathesis in giving rise to the symptoms of stricture, a careful perusal of which will amply repay him. An extract of moderate length would not do justice to the subject. (*Vide pp 140-5*)

We now come to the second part of the work, which commences in the sixth chapter, by treating of the diagnosis of stricture of the urethra. Having premised at its commencement that symptoms alone are insufficient to determine the existence of organic contraction, the necessity for the employment of an exploring instrument follows as a matter of course, and the first question presenting itself is, what is the kind of instrument most desirable to employ and most practically useful? Here again our author appeals to nature, and inquires, what is the exact direction of the canal to be explored? And this, which has been demonstrated in the first chapter, is assumed to afford the proper indication as to the form of the instruments in question. By diagrams he illustrates the curve which a catheter or sound ought on *a priori* principles to possess, and he asserts that practice confirms the truth of his theoretical views. The form which Mr. Thompson recommends, differs a little from that in common use, by being rather more curved; and he especially reprobates an instrument not uncommonly met with, which presents a straight part at the end of the curve, as being "wholly unfitted to traverse the urethra with ease and safety." He makes some judicious remarks also upon the relation existing between the axis of the stem of a catheter and the axis of its point; and shows that it is impossible "to predicate with unerring certainty the direction which the extremity of an instrument takes while it is hidden in the urethra and bladder," unless the relation between them is constant, and known to the operator. Following these remarks we commend, especially to the student, the highly practical and sound instructions which are given in relation to the employment of instruments, with a view to the diagnosis of stricture, as well as the remainder of the chapter, which continues the subject in the consideration of the treatment by dilatation at great length. Of *all* modes of treatment, Mr Thompson says, "it is the most desirable to employ whenever the case admits of it. At the same time, it is by far the most generally applicable, as being that which is beyond all question best adapted to cure a very large proportion of all the cases presented to our notice." Various means of dealing with a case of extreme difficulty are described, by various instruments, both solid and flexible. Our author manifests a strong preference for those of the former kind, as a general rule, and respecting the comparative merits of the two, thus expresses himself:—

"There are general principles which should guide us in distinguishing as to the propriety of choosing either. Neither ought to be used indiscriminately: one or the other must generally be the better agent in any given case. These may be stated in general terms as follows: When the course which the urethra takes is normal, not made to deviate much from the ordinary direction, by any obstruction external or internal, when its track, although devious, is known, and the position and nature of the obstacles are recognized, when there are good reasons for believing that it is desirable to follow any direction in particular, as along the upper part of the canal only, or otherwise: or when, for want of indication, it is intended to maintain steadily the natural course as the safest to follow—when, in short, we have decided on the way to be traversed, and desire to take the command of the instrument into our own hands, and to keep it there, we must use one which will not yield to impediments, or be deflected from the intended direction by them. When, and only when, we find the obstacles of

such a nature, that the only chance of passing them is found in relinquishing the guidance of the instrument and permitting it to worm its own way, then should we choose a flexible one. Lastly: such are generally safer in the hands of those who are unacquainted with the management of instruments in the urethra altogether.

"For what other purpose can the operator with reason use an instrument which bends, and the point of which cannot be governed by his hand, than for this? The power of controlling its course is the very last thing I should wish to resign in the management of a catheter, except for those cases in which the abnormalities and distortions met with put to naught all anatomical knowledge, and compel me to trust in an instrument whose flexibility enables it to find the passage, without inflicting injury upon the structures around. But such, I must confess, are extremely rare."

Little is said in favor of model bougies and similar inventions for obtaining a cast of the face of a stricture. We quite agree with Mr. Thompson in believing that "less is learned in this way than some books appear to teach." The contrivances suggested by Mr. Wakley, Mr. Holt, Dr. Arnott, and others, pass also under review. Of the former, Mr. Thompson speaks with some degree of favor, in which we certainly cannot concur with him, although evidently not from practical acquaintance with their use, for referring to each and all of these suggestions, he says, "the objections to the use of well-polished solid sounds are greatly lessened by care and skill in their management; and although a better method may possibly yet be invented, I do not at present know one that deserves the application of that term."

Chapter the seventh is devoted to the employment of chemical agents in the treatment of stricture. The history and practice of this method is described from the 16th century to the present time, with the very few modifications which it has undergone during that period, probably from the very limited favor with which it has generally been received at the hands of experienced surgeons. All the evidence which our author has been able to obtain in reference to this mode of treatment, has nevertheless been brought together, and the result, on the whole, does not encourage us to look for any great benefit from the employment of either the nitrate of silver or the caustic potash; while there can be little doubt that the indiscriminate or frequent use of these agents is calculated to occasion much mischief in so delicate structure as the human urethra, entirely concealed as the process of application must be from the view of the operator.

In the succeeding chapter the treatment by internal division is considered. The various modes proposed for accomplishing these operations are described from the beginning of the last century to the time of Stafford, and from that of the present day, including the recent proposal of M. Reybord, to whom the Academy of Medicine, of Paris, awarded the Argenteuil prize, for his modification of one of the old instruments alluded to. Mr. Thompson, in common with most English surgeons, we believe, has no hesitation in limiting the employment of internal division to the anterior part of the urethra, in cases for which a full trial of dilatation has certainly failed to afford adequate relief.

The next chapter is devoted to a most careful and laborious consideration of the whole question of external cutting operations for the cure of stricture. Carefully tracing the history of these procedures from the year 1650 to the present era, our author details the progressive steps by which we arrived, soon after the commencement of the present century, in the hands of Mr. Arnott, Mr. Guthrie, and others, at the present method of dissecting through an impermeable stricture, that is to say, a stricture which proved impassable to instruments after long and repeated attempts by the most skilful surgeons of the time. To this operation he proposes that the term "perineal section" should be restricted; and in speaking of its merits he observes,—

"Now, as to the applicability of the operation of perineal section, whatever may be said of it in circumstances of retention, the consideration of which will come hereafter, the case must be bad indeed in which we are compelled to resort to it as a means of cure. All surgeons have regarded it at best as a dangerous remedy. The uncertainty which must attend an attempt to divide, by mere dissection from the surface of the perineum, an inch or more of contracted

urethra, whose calibre is reduced to what is almost a capillary bore, especially if the tissues are unnaturally thickened and condensed, will be admitted by all; and few, perhaps, would undertake to assert, unless a grooved director can first be passed, that an accurate division can be insured, or, indeed, that it is ever made. Thus, Sir B. Brodie says: 'Even under the most favorable circumstances it cannot be otherwise than doubtful whether the stricture be properly divided; that is, whether the incision has passed through the narrow canal in the centre, or through the solid substance on one side of it. I suppose that no surgeon would recommend such an operation except as a last resort, where no instrument could be made to pass through the stricture by other means.' Every chance of getting an instrument through the stricture that can possibly be derived from the employment of rest and constitutional treatment, in addition to the most careful and repeated manipulations, should be exhausted before we consent to employ it, failing in which its necessity must be admitted as a last extremity."

The next step in the history is the proposal of Mr. Syme, which, although frequently confounded with the operation just alluded to, is a wholly distinct, we may say, opposite proceeding. That gentleman, now some ten years ago or more, appears to have arrived at an opinion pretty nearly identical with that of Sir B. Brodie quoted in the preceding extract, in relation to the dangerous character of the perineal section. Further, he came to the conclusion that fewer strictures were really impermeable to instruments than were generally supposed, and, acting on the conviction by giving more time and patience to the attempt, found himself succeeding with cases which he had previously been led, in common with the rest of his brethren, to regard in that light. Finding, however, that the worst cases very soon relapsed, or exhibited so much constitutional irritability as to render the treatment by dilatation either inefficient or impracticable, he passed a grooved staff of small size through the stricture, and cut down upon it from the perineum, so as to divide the whole of the contracted part, stating that the requisite preliminary proceeding could always be accomplished. He then passed a catheter into the bladder, and retained it for two or three days, and employed a certain amount of dilatation during and after the healing of the perineal wound. This is the whole sum and substance of the Edinburgh prescription for the worst cases of stricture; and this is that which, stripped of the acrimonious controversies which have been discreditable to both parties engaged, is the entire *questio vexata* of the day in relation to urethral stricture. This simple proposition to divide the contracted tissue upon a director previously introduced, rather than without any such guide at all, has been the cause of discussions as personal as rancorous, as unworthy of the gentlemanly-like conduct expected from the members of a liberal profession, as have been witnessed in the arena of theological debate, between disputants armed with metaphysical subtleties, not with questions of fact, which a little time and patience, a clear intellect, and a truthful spirit, by the aid of inquiry, might verify or disprove. Exhibiting no sign of partisanship, or even personal predilection, Mr. Thompson has entered upon the task of ascertaining whether or not the results of Mr. Syme's operation of external division are such as to commend it to the good opinion of his brethren.

First, the question of impermeability is disposed of, respecting which Mr. Syme was certainly at one time anything but explicit, but which is at last resolved into the following terms:—

"Mr. Syme's assertion, then, amounts to this, and can be understood to mean no more, viz., that wherever the urine passes out by the external meatus a catheter may be got in. Thus, he writes, 'As to the question of "impermeability," I simply maintain, that if the urine passes out, instruments may always, through care and perseverance, be got in beyond the contraction. It should be observed that the case here is quite different from that of a distended bladder requiring *immediate* relief. I have never maintained that in such circumstances the introduction of a catheter was always practicable.'"

He then enters upon an examination of the cases operated upon:—

"The operation of dividing a permeable stricture upon a grooved sound as a means of cure has been performed, as far as I have been able to learn, about 115 or 120 times. Through the kindness of those gentlemen whose names are

given below, from each of whom I have recently received communications either in person or by writing, I have obtained the histories of many cases hitherto unpublished, and have collected more or less of information, the results of which are annexed in general terms.

"By Mr. Syme, above		70 times.	No death; a large proportion of the cases successful.
Mr. Fergusson,	4	"	One death; two tolerably successful; one doubtful.* <i>Outlines of Cases</i> , Nos. 1 to 4.
Mr. Cock,	5	"	One death; the remainder more or less successful. See <i>Outlines of Cases</i> , Nos. 5, 6, 7, 8, and 9.
Mr. Coulson,	8	"	One death; the remainder more or less successful. <i>Outlines of Cases</i> , Nos. 10 to 17.
Mr. Erichsen,	5	"	The majority more or less successful. One or two doubtful. <i>Outlines of Cases</i> , Nos. 18 to 21. <i>Reported Cases</i> , No. 17.
Mr. Haynes Walton,	1	"	Successful. <i>Outlines of Cases</i> , No. 22.
Mr. H. Thompson,	1	"	Successful. <i>Reported Cases</i> , No. 11.
Mr. Mackenzie,	7	"	One death; the remainder more or less successful. <i>Outlines of Cases</i> , Nos. 23 to 29.
Mr. Dunsmure,	3	"	Two more or less successful, one unsuccessful. <i>Outlines of Cases</i> , Nos. 30 to 32.
Dr. F. Thompson,	2	"	Successful. <i>Outlines of Cases</i> , Nos. 33, 34.
Dr. Cruickshank,	1	"	Successful. <i>Outlines of Cases</i> , No. 35.
Mr. Fiddes,	6	"	Five successful, one doubtful. <i>Outlines of Cases</i> , Nos. 36 to 41."

All the cases operated upon by other surgeons than Mr. Syme, 41 in number, were either seen by Mr. Thompson, or put in direct communication with him by letter, and their histories reported in the appendix, with the most recent information which could be obtained respecting them. The examination proceeds as follows:—

"In relation to this subject, two questions present themselves for consideration :

"FIRST, What amount of danger attends the performance of the operation ?

"SECONDLY, How far is it entitled to be considered a means of cure ?"

In reply to the first question, four cases of death only have taken place; the cause in each being without doubt pyæmia. The question of hemorrhage is next considered, and the evidence respecting it adduced at length, with the following result :

"No impartial observer who has gone with me thus far will hesitate, I think, to conclude that the occurrence of a certain amount of hemorrhage, say a few ounces, may be reckoned upon as an occasional, although it appears to be certainly an exceptional result of this operation. Nor can we wonder at this; the bulb of the urethra may be divided, indeed must generally be so to a greater or less extent, and such division has been a source of hemorrhage, *commensurate with the extent, and depending upon the situation of it*, in the experience of surgeons, from the earliest times, and why it should cease to be so now does not appear. In order to avoid it, the cardinal point of the operation must be carefully attended to, viz., to cut in the median line; and this in sections of the bulb is the line of safety, not on account of some traces of a fibrous partition which does exist there, but because the incision is then equidistant from the two branches of arterial supply which enter the bulb one on each side, and thus the entanglement of coagula in the meshes of the erectile tissue is favored, which cannot of course take place if the bulb be divided on either side, as the mouth of the artery is then nearly, if not quite exposed. (See 'Anatomy of the Bulb,' pp. 39, 40.)

* Another case by Mr. Fergusson, reported in the *Medical Gazette*, April 12, 1850, is not included here, as the operation of lithotomy was performed at the same time by extension of the perineal incision, and it might be objected that this, therefore, was not a fair case in point.

But if hemorrhage does occur, I am bound to say, that the *difficulty in stopping it ought not to be great*. There being already a full-sized catheter in the urethra, a dossil of lint properly placed between the lips of the incision, and a pad outside, will command it completely if the continued application of cold prove insufficient. At all events, under the worst circumstances no man can bleed to a dangerous extent who receives a proper share of attention from those around him. Few of those, I imagine, who have passed through a practical surgical noviciate at our hospitals, will fail to remember cases in which they either assisted at, or at least have witnessed, the successful treatment of obstinate hemorrhage from a perineal incision, by pressure with the finger in the wound, as a last resort, maintained for hours together by changing the assistants as they tired. I am bound to say that dangerous or protracted bleedings are *never the necessary result of the operation in question, and cannot in fairness be charged to it.*"

Succeeding to this paragraph we find that—

"Urinary infiltration has also been suggested as a not improbable result of the operation. I can only say I have never seen it, nor have I heard of its occurrence in any quarter. Of all consequences to be feared it would undoubtedly be the most dangerous which could happen and if so great a hazard were incurred by the performance of the proceeding in question, I do not hesitate to say that its employment would be one of questionable propriety. Of course unless the deep fascia be divided to some extent, infiltration of the tissues is obviously impossible. By adopting a careful manipulation, Mr. Syme states that this may always be avoided. Whether or not, the facts which are indisputable, that any incision of it which can at any time be required need only to be exceedingly limited, and that we have no experience of the occurrence of urinary infiltration in any case, prove that it is not to be apprehended as one of the consequences of the operation, and cannot be ranked among them."

In answer to the second inquiry, as to how far the operation is entitled to be considered as a means of cure, Mr. Thompson says, there are three results which may arise from this operation:—

"It may fail to afford any relief.

"It may cure for a short period, and afterwards be followed by a relapse.

"It may effect a permanent cure."

In considering the first, there is an admission of three or four cases in which failure is attributable to erysipelas or the like. The second is admitted also in several cases, and reasons are given for its occurrence, in the insufficient division of the stricture at first, in the want of proper dilatation afterwards, and in the subsequent irregular habits of the patient, &c. The third is noticed as follows:—

"There is therefore no alternative remaining than to admit the existence of a strong probability, that a large proportion of cases must be assigned to the third category, viz., those for whom the proceeding has effected a permanent cure."

The details of the operation are then described with great minuteness, much more so than in any account previously given even by Mr. Syme himself, the author having witnessed its performance on more than one occasion by the originator of the proceeding: and we certainly feel warranted in saying that had that distinguished surgeon taken the pains to explain it which Mr. Thompson has done in these pages, both by verbal directions and illustrative drawings, he would have encountered less opposition, and been less misunderstood than he has been.

It is on this ground that we have deemed it right to enter so fully upon this part of the subject, although we have given but a bare sketch of the forty pages which are devoted to its discussion, on the work before us. In reference to it, the concluding remarks of the author may be appropriately quoted here:—

"I have felt impelled to discuss the subject fully, if at all. In the present state of divided opinions, and conjectures respecting it, it was impossible to escape the duty of making a laborious, careful, and, as far as possible, unprejudiced examination of the evidence presented in relation to the subject, unless, indeed, its consideration were given up altogether, an alternative which could not for a moment be entertained. I have been compelled to arrive at conclusions, somewhat at variance perhaps with my own preconceived notions; but I have the satisfaction of believing that a fair and correct exposition of this much

'vexed question' has been presented as the result of what has certainly been the most arduous portion of my labors in relation to this work. I have at least performed it with most honest intentions to eliminate the truth, as far as has been possible; whether altogether successfully or otherwise, time only, as it augments our experience, can determine."

Our limits warn us to bring these remarks to a close. Chapter X. presents a synopsis of the treatment of urinary abscess and fistula. Chapter IV. considers at length the important subject of retention of urine, especially in relation to treatment; and analyzes carefully the methods of puncturing the bladder now in vogue. We commend the perusal of this to the reader in search of detailed information on these topics. A short chapter is devoted to the causes, symptoms, and treatment of stricture of urethra in the female, and a very succinct and simple practical exposition of rules for the examination of the urine for clinical purposes follows, illustrated by steel engravings of the more common deposits as seen under the microscope.

The last extract we shall make, is that which contains the sum total of conclusions which the author arrives at, in relation to the subject of treatment.

"It now only remains, in pursuance of the principle which has been adopted in regard to each section of this work, to give as briefly as possible, a final recapitulation of the conclusions arrived at in relation to the entire subject of Treatment, in order to afford a summary of the main points which it has been my aim to elucidate in the foregoing pages.

" CONCLUSIONS.

"1. That the process of dilatation, carefully and perseveringly employed, is the most safe, efficient, and generally applicable of all means for the treatment of organic and permanent stricture (pp. 173-4).

"2. That while it is successful in curing the majority of cases, there are unquestionably some in which either the effect is so temporary that the contraction reappears on the cessation of the treatment, however long continued, or in which the urethra is so irritable that its employment aggravates rather than removes the symptoms (pp. 205, 255-6).

"3. That the nitrate of silver lightly applied is sometimes useful in the last-named cases, inasmuch as it exerts a salutary influence upon the diseased surface of the urethra, relieving inordinate irritability, and checking undue vascularity and disposition to hemorrhage, as it does in similar conditions of the skin and mucous membrane in other parts of the body, and thus it is a useful adjunct to dilatation (p. 219).

"4. That the potassa fusa, as a caustic, is considerably more active than the preceding, and is therefore more dangerous of application. If used at all, it should be applied only in very minute quantities, inasmuch as it is exceedingly difficult to limit the action of so powerful an escharotic, and apply it as a solvent only. It appears occasionally to aid the process of dilatation in the reduction of some strictures, probably by facilitating the solution of their component tissues, when care is taken to employ it in obedience to the condition just named (p. 220).

"5. That no agent should be employed in any case for the purpose of making an eschar or slough in the urethral canal (p. 220).

"6. That internal division is applicable only to strictures which are situated in that part of the urethra which is anterior to the bulb, and which have been found to resist dilatation (pp. 225-6).

"7. That the distance at which a stricture is situated from the orifice, and the extent to which it implicates the canal, may be so great as altogether to forbid the practice of internal division, for the operation becomes more hazardous, just in the ratio of the extent of the stricture, and extent becomes more formidable in the ratio of its distance from the external meatus, so that it is a far easier proceeding to make internal division of a large portion of contracted urethra, situated in the anterior part of a spongy body, than of a small portion at the bulb or behind it (p. 234).

"8. That dilatation having failed after an ample trial, the stricture being perme-

able, and situated near the junction of the bulb and membranous portion (a spot already seen to be the most frequently affected), external division made from the perineum upon a grooved staff is for most such cases a safe and efficient mode of treatment (pp. 256 et seq.).

" 9. That when the urethra is impermeable, every available means having been patiently and perseveringly employed to pass a catheter through it, but without success, the perineal section may be performed as a means of cure (pp. 251-2).

" 10. That when it is necessary to make an artificial outlet to relieve retention of urine, an operation may be performed for the purpose of curing the stricture at the same time, but if the condition of the patient require the proceeding employed to be as simple as possible, puncture of the bladder per rectum is indicated, unless the urethra be dilated in the perineum, when the making a single puncture there will be the best operation to perform (pp. 308-9).

" 11. That it is a matter of great importance in the treatment of old or severe strictures, in relation to the mode of treatment employed, to ascertain what degree of organic renal disease exists as fully as our means of observation enable us, inasmuch as its presence renders *all* operations upon the urethra hazardous, and, for the most part, in a degree corresponding with the extent to which the renal organs are implicated (pp. 102-3 and 269).

" 12. That since few permanent strictures exist which are not considerably influenced at some time or another by the occurrence of inflammation or congestion in the parts around, or by the action of spasm in the adjacent muscular tissues, either separately or conjointly, treatment may be always most advantageously directed to the improvement of the general health, to the subduing of local congestion, and to the removal of those sources of irritation, whether in the urine, in the urinary passages, or in some other and more distant parts, which have been pointed out as liable to excite the phenomena referred to (pp. 203-5 and Chapter V, *The Pathology of Strictures which are of Transient Duration*)."

For ourselves, it remains but to say that we cordially recommend to our readers the monograph before us, as the most comprehensive, accurate, and practical treatise on the whole subject of urethral stricture and its consequences, which has yet been presented to the notice of the profession. It will naturally become the text-book to this important department of urinary pathology.

REPORT ON THE PROGRESS OF MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

Reflections on the duration of Pregnancy, with remarks on the calculation of the day of confinement. By J. MATTHEWS DUNCAN, M.D., A.M., M.D., F.R.C.P.E., Lecturer on Midwifery, &c.

This paper is of great importance, as pointing out a physiological fact which has not yet been applied to the decision of the very difficult question under consideration—the fact, namely, that conception may not take place for a considerable time after the conjunction of the sexes.

“In the beginning,” writes Dr. Duncan, “it will be useful to define the meaning to be attached to some important terms frequently recurring in this discussion, viz., insemination, conception, and impregnation. By the word insemination is to be understood simply the injection of semen into the genital passages, the conjunction of the two sexes. By conception is to be understood the more hidden and mysterious union of the semen and ovum, while the word impregnation implies both of these processes.

“The confusion of the two former of these different processes is so general among obstetric writers, that it is needless to quote authorities for the assertion. That they should always be held distinct in studying this subject will, I hope, be made apparent. For, in fixing the commencement of pregnancy, it is necessary to date only from the period of conception. Authors, in discussing this subject, have delighted to quote as crucial examples those cases where the date of an only connection, or of connections within a short and limited time could be satisfactorily decided. But it is evident that such a date only fixes the time of insemination, and not the time of the commencement of pregnancy. For a woman cannot be said to be pregnant whose body merely contains seminal matter. Pregnancy is a state of fertility, of breeding, which, as Leeuwenhoek long ago pointed out,* cannot be said to commence until such time as may have elapsed after insemination, before the union of the ovum or ova and semen has taken place. This period of time, whatever may be its possible length, must be subtracted from all these supposed crucial cases of the duration of pregnancy. The interval described as the duration of pregnancy, that is, between successful insemination and parturition, must be considered as, in strict language, a false period; and it is so because it contains the period between insemination and conception, during which a woman is not pregnant. Of this interval, then, all such cases must be curtailed.

“Very little has as yet been ascertained as to the possible length of this interval. It was my intention to have attempted to make it out in regard to some of the lower animals; but my inexperience in such investigations, and the pressure of other avocations, have hitherto deterred me from the pursuit of this object. There is, then, at present, no resource in this question but to facts already known. Now it has been ascertained by physiologists that for impregnation it is not necessary the semen should be newly expelled by the male.†

* Hinc, hæc animalcula diutius in tuba sive matricæ posse vivere, animo præsumebam meo, ac quoque nostræ mulieres non præcise eo die sive tempore, quo cum viro rem habuerunt, secundas sive gravidas fieri; sed easdem post octo, aut decem, imo plures quidem dies, postquam coiverunt, gravidas posse fieri, quia post aliquot coitus dies ex multis saltem animalculis, unum animalculum eousque pervenire potest, ut punctum sive punctulum istud, animalculum fovendo aptum, attingat. (*Arcana Naturæ, etc.* tom. ii., p. 150, edit. in 4to; Lugd. 1708).

† “On opening the body of a female mammal, one or more days after it has received the male, semen may be found not only in the body and horns of the uterus, but also in the oviducts, and on the surface of the ovary. The spermatozoa are in vigorous movement. These may retain their activity for a week or more in the female organs. And in many insects this period of time is much greater. Here the ova are only expelled long after copulation. The female, therefore, possesses a special receptacle in which the moving spermatozoa are preserved until the ova finally reach them. In this receptacle their activity remains uninjured for many months.” (Valentin *Text Book of Physiol.* Eng. Tr., p. 641.)

Animals have been frequently impregnated, by Spallanzani and others, with semen, which has not only been kept for some time, but has even been variously altered, in mechanical properties at least, in experiments. And there seems to be no limit to the time during which the semen may be kept without losing its virtues, except the term of the life of the spermatozoa.

“That this period is not insignificant, and cannot be passed over without risk of important error, in fact, that it may extend to many days or weeks, will appear from the following observations. We omit the facts in regard to animals so low in the scale as insects, in the females of which the semen is laid up in cavities where it retains its power for months. In regard to the dog, Leeuwenhoek* pointed out that these animalcules might live for more than seven days preserved in a glass tube, and if such be the case in a rude experiment, it may be expected that they would retain vitality considerably longer in the passages of the bitch, where they have heat and moisture supplied under favorable circumstances. That they do live for some days in the genital passages has been proved by abundant observations, although the possible length of this period is not certain. The decision, indeed, of this point by microscopic observations would be a very difficult matter, as it would involve the almost impossible search for spermatozoa over every part of a long tract of mucous membrane. And this search would be necessary, for we know by the experiments of Spallanzani that semen highly diluted, or, in other words, the smallest quantity of semen is sufficient for successful impregnation.†

“Again, the elaborate experiments of Haighton,‡ long ago performed, show that in the rabbit conception generally does not take place till about fifty hours, or more than two days after insemination. He found that division of the Fallopian tube earlier than this time prevented conception, and that, by waiting longer, the conception was not prevented by the mutilation. It thus appeared that the conjunction of the ova and semen in the rabbit generally did not take place till more than two days after insemination. In the rabbit, then, there was found in Haighton’s experiments this long interval between insemination and conception, and in some cases it is possibly much longer. In the rabbit the interval between insemination and parturition is ordinarily thirty days. The observations of Tessier upon 161 rabbits, give five days as the extreme limit of the protraction of this term, a period of time which may be accounted for without any stretch of the space during which the semen may retain its fructifying power. And in this way it may have happened that the real period of gestation, that is, from conception to parturition, may not have been at all protracted in these cases. The cases also in which the period was less than thirty days may be explained by supposing the ova to have been further matured or even advanced into the uterine horns before impregnation took place, so that conception may have happened very soon after insemination. And in Tessier’s observations it is remarkable that in none of the rabbits did labor anticipate the usual time more than two days, the period which Haighton’s experiments seem to show to be the usual interval between insemination and conception in this animal. In the present state of our knowledge, however, these explanations cannot be absolutely established.

“Experiments of Cruickshank upon the rabbit and doe, experiments of Wharton Jones, Martin Barry, and others, might be adduced as throwing light on this point.

“For reasons which do not require to be stated, there is a great deficiency of evidence in regard to the analogous subject in the human female. But there is every reason to believe that the circumstances of conception in her closely resemble those in the higher animals. It has of late years been shown that in woman, at every menstrual period, an ovum is matured and expelled from its Graafian vesicle, and that she is liable to conceive during its progress along the

*“Si enim animalcula plures quam septem integros dies in tuba vitrea vivere possint, quantum temporis illa in matrice, his animalculis recipiendis ac fovendis unice constituta, vivere quidem possent.” (“Arcana naturæ, etc.,” tom. ii. p. 150.)

† These observations of Spallanzani have lately been considerably modified and corrected, by the researches of Mr. Newport upon the quantity or number of spermatozoa required to fecundate an ovum in the frog, &c. (See his paper in the *London Phil. Trans.* for 1863, part ii.)

‡ *Philosophical Transactions*, 1797.

Fallopian tube. How long after its maturation the ovum can retain its vitality and susceptibility to the seminal influence is not known, but probably the time is short. Nevertheless, cases might be easily adduced from the works of eminent obstetricians to prove that a single insemination at any period of the interval between two menstrual periods may result in the fertilization of the female. Of such cases, those only are important in our present point of view where conception has resulted from insemination shortly before the return of a period. They admit of explanation in three different ways.* Either the ovum has remained up till this time entire and susceptible of being influenced by the semen, a supposition which is very improbable as regards the ovum,† and is at variance with what we know of the history of the decidua or nidus prepared for the egg's further development, or the excitement of connection may have hastened the maturation and rupture of a Graafian vesicle, a view which is in itself improbable and inconsistent with what we know results from similar circumstances in the lower animals. But it may also happen that the seminal animalcules may remain in the passages till the ovum is prepared and discharged from its vesicle. An objection at once appears to this explanation, namely, that these spermatozoa would be removed by the menstruation contemporaneous with the discharge of the ovum. When menstruation does supervene on a single recent coitus, this will probably happen, unless the semen have permeated the Fallopian tubes, and thus advanced beyond the scope of the menstrual flux. But the study of such cases, as recorded by authors, reveals this interesting fact, that under such circumstances menstruation often does not take place at all, or only very scantily; the uterine system, as it were, anticipating the conception, and preventing the failure which might result from a free discharge of blood. It is evident that such cases occurring in married women would be very liable to be considered cases of gestation protracted a month."

Making this distinction between the date of insemination and that of conception, the author considers that it may be possible eventually to harmonize the discordant views as to the term of human pregnancy, and to account for many so-called cases of prolonged gestation; but that there is not yet sufficient evidence to allow of this. In Dr. Duncan's opinion, many of these so-called cases of protracted gestation are contradicted by the size of the child. If gestation had been really prolonged (he argues) the child should be unusually large; and because in many cases the child has not been larger or even less than usual, it is presumed that the child could not have been in the uterus for a longer time than usual. This argument, however, is open to fallacy, for, if necessary, we think it might be shown that a small child, *ceteris paribus*, was more likely to remain in the uterus than a large child; but to us the question does not seem of sufficient importance to render its examination necessary.

The conclusions of this interesting and important paper are:—

1. That the interval between conception and parturition (the real duration of pregnancy) has not been exactly ascertained in any case.
2. That the average interval between insemination and parturition (commonly called the duration of pregnancy) is 275 days.
3. That the average interval between the end of menstruation and parturition is 278 days.
4. That the intervals between insemination and parturition, and between menstruation and parturition, have no standard length, but vary within certain limits.
5. That while absolute proof of the prolongation of real pregnancy beyond its usual limits is still deficient, yet that there is evidence to establish the probability that it may be protracted beyond such limits to the extent of three or even four weeks.

* As a good example we may refer to a case of Dr. Montgomery's (*Signs, &c., of Pregnancy*, p. 1258.) The last menstruation was on the 18th October. Impregnation took place on the 10th November; parturition on the 17th August. The interval between insemination and parturition was thus 280 days; between last menstruation and parturition it was about three weeks more.

† "The passage of the ovum from the ovary to the uterus occupies, M. Bischoff says, three days in the rabbit and four or five days in ruminants, and therefore, probably eight or ten days in the human female. M. Bischoff believes that the ovum escapes from the Graafian follicle at the time when the menstrual discharge is about to cease, and he is of opinion, that in order to be fecundated, it must be acted on by the semen while it is in the Fallopian tube." (*Baly and Kirkes's Suppl. to the 2d vol. of Muller's Physiol.* p. 58.)

1. *On the comparative value of Ergot of Rye and Galvanism in obstetric practice.* By R. BARNES, M.D., Lecturer on Midwifery at the Royal Free Hospital Medical School. (*The Lancet*, 5th and 12th November, 1853.)
2. *On Galvanism as an obstetric agent.* By THOMAS RADFORD, M.D., Consulting Physician to the Manchester and Salford Lying-in Hospital. (*The Lancet*, 26th November, 1853.)

1. Dr. Barnes' principal object in the paper under consideration is to show the complete superiority of galvanism over ergot in the management of labor characterized by defective uterine action; and in doing this he brings to light much important matter.

In the first place he sets himself to show the dangers arising out of the unmanageable contraction which is set up by the ergot—rupture of the uterus and of the perinæum, laceration of the os uteri, prolapsus of the uterus and bladder, dangerous depression of the mother, murder to the child, and so on. Of these dangers, more or less serious, the two last are the least understood, and they are also best elucidated by Dr. Barnes.

The fact that ergot always causes depression, and often serious depression, is not generally understood, and yet, as we take it, this is the all-important fact in accounting for its action upon the uterus. According to our own views in the matter, the uterus should contract under the influence of ergot, not in consequence of any stimulation exercised by the drug upon the uterine fibres, but in consequence of a directly contrary influence. Hence the depression referred to is an all-important and significant fact in accounting for its action. Upon this point Dr. Barnes quotes from Dr. Hardy:—

"Dr. Hardy relates," he says (*Dublin Quarterly Journal*, 1845), "that in several cases where the circulation had undergone depression from the action of ergot, the effect continued for several days, notwithstanding that in some instances inflammation of the uterus followed delivery, and the uterine tumor not unfrequently remained much larger than natural, even where there was no inflammation." Again, "Drs. Hardy and M'Clintock have observed a marked diminution of the mother's pulse in from fifteen to twenty minutes after the administration of the ergot, and all concur in noticing the dangerous depression following the use of ergot when given in cases where the powers of the system have been reduced by hemorrhage. In one such case ergot was almost immediately followed by most alarming symptoms, and depression requiring the most powerful stimulants. In several cases the depressed state of the circulation continued several days."

The injury done to the child offers a very tangible objection. While it continues the contraction of the uterus necessarily suspends more or less the fetal circulation, by interfering with the due aeration of the fetal blood. This happens during a natural uterine pain, but the duration of this pain is such that, as a rule, no damage results to the child. It is different, however, if this pain is prolonged inordinately, as it is by ergot. Dr. Barnes puts the case very well:—

"Drs. Hardy and M'Clintock observed that the pulsations of the fetal heart underwent a similar diminution in frequency to that witnessed in the mother, and that this was succeeded by irregularity and intermission, and that it became inaudible. Dr. Hardy, Dr. Beatty, and others, after careful observation directed to this point, assert that unless the child be born within a limited interval from the administration of the drug, it will be still-born. The excessive mortality of the children in ergotic labor is a fact well established, although disputed by some practitioners enthusiastic in the praises of ergot. The Prefect of the Seine had observed an almost regular annual increase in the number of still-born children, and he was informed that in a large number of these cases ergot of rye had been given during labor. He put the following question to the Academy of Medicine: 'What may be the influence of ergot of rye on the lives of infants, and on the maternal life?' The report made by a commission of the Academy, consisting of Orfila, Adelon, Villeneuve, Méral, and Danyau, contained the following conclusion: 'Ergot of rye administered improperly causes death to the fœtus and injury to the mother.' The immediate source of danger to the fœtus

is either the toxical property imparted to the blood, or the interruption to the circulation through the uterus and the placenta, occasioned by the long-continued contraction of the uterus. In this latter case the child may perish from asphyxia. These are the usual sources of danger; but there is a third. The long-continued and violent pressure to which the child is subjected during ergotic labor may compress the brain beyond the limit of endurance, or it may impede the circulation through the umbilical cord. The toxical agency of the ergot upon the fetal heart is exemplified in the observations already referred to of Dr. Hardy. The influence of contraction of the womb in arresting the circulation through the placenta, and consequently the fetal circulation, has been demonstrated to me by actual observation. The case is so interesting, and the opportunity of making a similar physiological experiment must be so rare, that I will cite it in detail.

"CASE 2.—A woman, with an extremely contracted pelvis, and who ten years before had been delivered by craniotomy by Dr. Waller, consulted me about her condition. She was again pregnant. I became satisfied of the propriety of inducing premature labor; and the agent I determined upon employing was galvanism. Having waited until it was estimated that seven months of gestation had passed, the operation was commenced. I shall have to relate presently the course of the labor under the use of galvanism, and may therefore pass at once to the particular point it is my present wish to illustrate. When labor had set in, and the os uteri was partially expanded, the cord came down into the vagina. The pains being of a languid, uncertain character, the galvanic stimulus was kept up. The pulsations of the cord were strong, and 80 in the minute. Galvanism was applied during the pains; the contractions were sensibly increased in force, and during the contractions the pulsations in the cord became intermitting, and occasionally stopped. As the pain went off, and as the galvanism was discontinued, the pulsations resumed their former strength and regularity. I then tried the effect of galvanism in the absence of a pain. Contractions were induced, and the intermittence of the pulse followed.

"I then observed the effect of a pain uninfluenced by galvanism. The intermittence of the pulse was the same. I repeated these observations several times, and always with the same result. Towards the termination of the labor a strong expulsive pain came on, during which the head, which was very small, was driven into the vagina, without, however, causing any pressure upon the cord. During the strong pain the pulsation in the cord stopped entirely, but returned when the pain went off.

"But fetal circulation is arrested during the physiological contraction of the womb for a short time only, and is completely restored during intervals sufficiently long to insure the safety of the child. In ergotic contraction the interruption is total, unremitting, and protracted. Shall we wonder if the child occasionally perishes from asphyxia?

"Dr. Ramsbotham, whose experience in the use of ergot in inducing premature labor is probably greater than that of any other practitioner, says—'After a great number of trials, I observed that although the mothers recovered as well as if through an ordinary labor, their systems not being in any sensible degree injuriously affected by the drug, yet that the proportion of children born still was greater than when the membranes were punctured. This I attributed to the baneful influence of the medicine upon the fœtus.' Dr. Ramsbotham modified his practice in consequence. He further says that 'Wright's experiments prove decisively that the medicine has a most prejudicial influence upon the young *in utero*, even to their destruction.'

"If the child survives the perils of ergotic labor, is it free from subsequent danger?

"Dr. Ramsbotham says—'It has happened to me in four different instances to witness the death of the fœtus, a few hours after birth, by convulsions, after the induction of premature labor by ergot.' "

In the second place, Dr. Barnes pleads in favor of galvanism as a substitute for ergot, his chief reason being that the contraction which it provokes is perfectly manageable. In illustration of the efficacy of galvanism for this purpose, he refers to the evidence already published, particularly that by Dr. Radford and

Mr. Haighton; and in addition to this he adduces some evidence derived from his own experience or from that of his friends.

Of the use of galvanism in inducing premature labor he mentions two cases:—

“CASE 3.—I have already referred to this case for the purpose of illustrating the effect of contraction of the uterus upon the foetal circulation. The result, although perfectly satisfactory, was by no means so speedily accomplished as in the case of Hörninger and Jacobi. I had previously endeavored to bring on labor by puncturing the membranes, and inserting a sponge-plug in the cervix uteri. This proceeding was followed by no symptom of labor. On the 23d of January I applied the galvanic battery for half an hour, placing one pole on either side of the uterus. Immediately after commencing the shocks the bladder was irresistibly emptied, to the evident annoyance of the patient. The womb was felt to become hard, and the patient herself was sensible of contractions and increased movements of the foetus. The contractions did not continue on the cessation of the galvanism, and I therefore repeated the application on the 24th and 26th, for about an hour each time. On the 26th a ‘show’ took place. On the evening of the 27th slight pains were felt; the cord was presenting, a small loop coming through the os uteri, which was now dilated to the size of a shilling, but feeling rigid. She had had rather copious flooding in the day-time, but it had stopped. The head was felt lying on the pubis in front of the os uteri, the cord coming down in the free space behind it. On the morning of the 28th, the galvanism having been applied at intervals all night, the pains had increased. I have already mentioned how the galvanism increased or originated contraction. At nine A.M. the child was born. It was apparently not more than six months old. The patient had certainly reckoned falsely. The child’s heart was pulsating; the chest made three or four convulsive heaves, at which the mouth opened, but no air seemed to enter; the lungs refuse to expand; the walls of the chest were drawn in towards the spine. I endeavored to excite respiration by the galvanic apparatus, but although I could at will cause a respiratory effort, the child was evidently too immature to live. The womb contracted favorably, and the placenta being withdrawn was found healthy. The patient recovered without a bad symptom.

“The excellent effect of galvanism in this case led me to recommend the use of the same agent to my friend, Mr. Mansford, who has favored me with the following account:—

“CASE 4.—‘The lady, whose case led me to attempt the induction of premature labor, was in the forty-first year of her age, and the thirtieth week of her fifth pregnancy. On the 8th of November, 1852, having ruptured the membranes, I introduced one wire of the apparatus within the os uteri, and placed the other in contact with the spine. From the one introduced into the uterus I had removed the brass handle, and twisted the wire upon itself so as to form a loop sufficiently curved to insure its remaining steadily in its proper place. I also carefully enveloped a considerable portion of this wire with lint, as well to protect the vagina from the twisted portion and extremity as to prevent the galvanic current from being diverted from the uterus. I then increased its power until it produced “the most severe cutting pains in the loins,” “great bearing down,” and “a dreadful commotion in the womb.” These were my patient’s own expressions. The operation was repeated on the 9th and 10th, each morning for half an hour; the effect, however, had not been as yet altogether satisfactory, as I had not been able to maintain a continuous action; but on the fourth morning—viz., the 11th—I remedied this defect, and kept up a continuous current for three quarters of a hour, when my patient begged me to desist, which I did, and determined to wait a few days to see if this might accomplish the desired effect. Happily on the 14th, without any further interference, labor commenced, and terminated within four hours in the birth of a living child, and not a single untoward symptom occurred, spontaneously. It was altogether a most satisfactory case.’”

Of the use of galvanism in inertia during the first and second stages of labor, a case by Dr. Mackenzie is referred to:—

“CASE 5.—‘I was sent for one morning to a young woman who had been ad-

mitted in labor at the Paddington Infirmary, and on examination I found that the head presented. Although she had been several hours in labor, the os uteri was but little dilated. I saw her in the course of the same afternoon, but still found very little dilatation. At ten p.m. but little progress had been made. I now determined to try the effect of galvanism, and applied one pole of a single current machine to the spine, and the other, by means of Radford's director, to the neck of the uterus. The current was from time to time intermitted, and uterine action of a vigorous character was excited. In about an hour a fine living child was born. So vigorous were the expulsive efforts during the passage of the head through the os externum, that I was obliged to take particular pains to prevent rupture of the perinæum. The impression left on my mind by this case was that galvanism should not be employed except very cautiously in primiparæ, or in any other instance in which the perinæum is rigid or imperfectly developed.' "

In illustration of the use of galvanism in the third stage of labor, and in hemorrhage, another case by Dr. Mackenzie is referred to:—

"CASE 6.—'The patient had been upwards of forty-eight hours in labor, under the care of Dr. Keogh, who had called in Mr. Clark, by whom I was sent for. When I saw the patient uterine action had entirely ceased, and I found, on examination, that the head was impacted in the pelvis, the face presenting with the chin to the left cotyloid cavity. As the patient was exhausted, an opiate had been given, and as she was disposed to sleep, we agreed to meet again in some hours, and if uterine action did not return, to deliver by the forceps. At the appointed time no return of uterine action had taken place. I applied the forceps; the operation was accomplished with extreme difficulty, and the woman was delivered of a fine, large, living child. I left the patient shortly afterwards, but the next day, on meeting Dr. Keogh and Mr. Clark, I learned that great apprehension had been felt throughout the night as to the occurrence of hemorrhage, inasmuch as the uterus had remained flaccid and uncontracted, and at the time of my visit it reached above the umbilicus, and was very soft and flabby. I proposed galvanism, and applied one pole to the spine and the other to the neck of the uterus, occasionally intermitting the current. This was done for half an hour, and evident uterine action was excited, the uterus becoming harder and smaller, and on removing the poles two large coagula were expelled. The next day the uterus was more contracted and smaller, and no hemorrhage had occurred. Galvanism was again used for half an hour. The uterus certainly contracted under its influence. The following day no hemorrhage had occurred, and the condition of the uterus was such as not to require any further recourse to the agent. The woman from this time recovered in a most favorable manner.' "

Dr. Barnes, also, relates a case in which he used galvanism with success for the purpose of expelling hydatids.

"CASE 7.—Ann W——, æt. 42, had had eight children and three abortions. She applied to Mr. Forbes, on the 17th of June last, having anasarca of the legs. Two months before she suffered a burning pain in the region of the womb. She had menstruated up to Christmas last. Since that date there had been a little hemorrhagic discharge at intervals. For the last month there has been a continual discharge of colored fluid. Her health is much impaired, and her strength lowered. On the 18th, while in bed, she felt a vaginal discharge, and on getting up passed a large quantity of blood. The pulse was weak, thready, 108; face blanched; headache intense. No pain preceded the hemorrhage. There was a tumor in the seat of the pregnant womb, extending more to the right side, and reaching to the umbilicus; it was firm and elastic, tender on pressure, which did not bring on labor-pains. The os uteri was the size of a shilling, and rigid. No placental murmur or sounds of foetal heart were heard. The breasts were quite flaccid. Os slightly expanded towards the afternoon. A dead foetus, or some diseased condition of the ovum, was suspected. In consultation, Dr. Barnes suggested galvanism to cause contraction; this had the desired effect, and Mr. Forbes was enabled to bring down a bunch of hydatids. The vagina was then plugged, and the abdomen bandaged. The disposition to contraction thus given, more hydatids were afterwards passed. Tincture of ergot of rye was then given in small doses. Early on the morning of the 19th, the patient passed a large

mass of hydatids, which was expelled suddenly with a pain like that of labor. She was quite exhausted with loss of blood and previous disease; symptoms of inflammation appeared, and she sank the same night. The *post-mortem* examination revealed a large fibrous tumor in the walls of the uterus, and an advanced stage of granular degeneration of the kidney."

The paper ends with a description of the mode in which galvanism is to be applied, and a summary of its advantages in comparison with ergot of rye:—

"The ordinary electro-magnetic apparatus in use for medical purposes is, I believe, the best form that can be employed. The principle of this apparatus consists in the induction of magnetic currents by a current of electricity, and the production of a rapid succession of feeble shocks by continual interruptions to the current. I have observed that the uterine contractions are always provoked at the break and renewal of the circuit. Repeated shocks act as a far more effectual and certain stimulus to uterine contractility than a continued current. It is probably through inattention to this fact that some practitioners have failed in effecting contraction of the uterus by means of galvanism. As to the mode of applying the poles, I do not think it necessary to apply one over the spine, and the other to the neck of the uterus, as is usually done. I have found the application of the disks, covered with thin flannel moistened in water, one on either side of the abdomen over the uterus, much more convenient and quite as effectual. The practice of applying one pole over the spine and the other to the neck of the uterus further seems to me to be based upon an erroneous view of the mode in which galvanism acts upon muscular fibre. When the poles are thus applied, one to the spine and the other to the cervix uteri, it is doubtful whether the ensuing contraction of the uterus is due to primary excitation of the spinal marrow."

* * * * *

"Among the advantages of galvanism more especially worthy of attention are:—

"1st. The simplicity of the operation.

"2d. The extensive range of cases in which it may be successfully employed, rendering the electro-magnetic apparatus a desirable addition to the armamentarium of the obstetric practitioner.

"3d. The perfectly manageable character of the agent. Its action may be broken off and renewed at pleasure. The moment we think the uterus is acting too powerfully under its use, we may instantly withdraw the exciting agency, and leave the uterus to the ordinary physiological stimuli, which seldom impel the organ to undue activity. It moreover admits of easy regulation; both the strength and duration of this agent are completely under our command. We have it in our power to imitate in a remarkable manner the natural pains, both as to intensity and intermission. Ergot has neither measure nor certainty.

"4th. Its peculiar appropriateness and efficacy in cases of extreme exhaustion of the system, where deglutition is difficult or impossible, or where the stomach rejects everything; where any other mechanical application to the uterus is dangerous or inconvenient, and especially where the introduction of the hand into the uterus would be likely to be attended by injury or even a fatal result. Indeed, it may be truly said that in cases of extreme exhaustion galvanism is the last resource left to us. The galvanic stimulus can be applied when everything besides is out of the question. The uterine muscular fibre will respond to this stimulus when the nervous system is utterly prostrate, when the heart has ceased to beat, when the patient is moribund or even dead.

"5th. Galvanism is less exhausting to the system than ergot or most other means of exciting contraction. It acts directly upon the uterine muscular fibre, and scarcely taxes at all the general powers of the system.

"6th. It does not necessarily preclude or supersede the use of other remedies tending to fulfil the same indication."

2. Dr. Radford's communication owes its origin to Dr. Barnes'. Its prime object is to vindicate the writer's claim to having been the first to recommend and employ galvanism as an obstetric agent in this country, as well as to state

the kind of cases in which this agent has been employed by him. These cases are:—

- 1st. In cases of tedious labor arising from uterine inertia.
- 2d. In cases of accidental hemorrhage, either before or after the rupture of the membranes, and especially when exhaustion from loss of blood exists.
- 3d. In cases of "placenta prævia," in which the practice of detaching the placenta is adopted, and the vital powers are greatly depressed.
- 4th. In cases of internal flooding before or during labor.
- 5th. In cases of *post-partum* floodings.
- 6th. In cases of hour-glass or irregular contraction of the uterus.
- 7th. To originate, *de novo*, uterine action, or in cases in which it is desired to induce premature labor.
- 8th. In cases of abortion, when the indications show the necessity or justify the expulsion of the ovum.
- 9th. In cases of asphyxia in infants.

On the source of Hemorrhage in partial separation of the Placenta.

By F. W. MACKENZIE, M.D., Fellow of University College.

We have already (Vol. XVII.) had occasion to refer to the researches of Dr. Mackenzie on this subject. On that occasion, these researches did not extend beyond the lower animals, and there was some doubt whether the conclusions arising out of them were applicable to the human female; now, however, they include the important link in the evidence which was then wanting, and their high significance in theoretical and practical midwifery may be said to be demonstrated. In our opinion it is difficult to over-estimate their practical importance, and we are much mistaken if the rules of treatment to which they lead will not, when properly appreciated and fully carried out, go far to prevent and remedy the dangers at present arising from the hemorrhage connected with partial separation of the placenta.

"There are few subjects in obstetric medicine of greater scientific interest, and none of greater practical importance, than that of the anatomical source of hemorrhage in cases of partial separation of the placenta. Upon its right understanding may be said to depend not only the whole question of the extraction of the placenta, in cases of placenta prævia, but also the general treatment of uterine hemorrhage in all its several forms; and yet there is probably no subject upon which so much diversity of opinion prevails, or in regard to which mere speculative notions have been more freely allowed to take the place of original observation.

"On referring to the published writings of various obstetric authorities, it will be found that three different opinions prevail at the present day respecting the anatomical source of hemorrhage in cases of partial separation of the placenta. The first affirms that it is principally or wholly uterine; the second that it is principally or wholly placental; the third, that it is both uterine and placental—the blood escaping partly from the exposed uterine and partly from the detached placental surfaces.

"Further, it will be found that uterine hemorrhage, whether occurring in connection with partial or entire separation of the placenta, is generally considered to be principally venous. 'Uterine hemorrhage,' says Dr. Simpson, 'after the separation of the placenta, in any of the stages of labor, is *not arterial* in its character. The utero-placental arteries are numerous, but so long and slender as to become readily closed; first, by the tonicity of their coats; secondly, by contraction of the uterine fibres upon the course of these vessels themselves, as they pass through and amid the uterine structure; and, thirdly and principally, by the changes in their tissues produced by the mechanical rupture of their coats—*torn arteries* being little, if at all, liable to bleed, and the placenta being separated by a true process of *avulsion*.' 'When the placenta is only separated,' says Dr. Radford, 'the blood which is lost is chiefly venous.' 'When the placenta is separated partially from the uterus,' Dr. Murphy observes, 'any hemorrhage must arise chiefly from the broken veins, and not from one but from both of their divided extremities.' 'It is,' says Dr. Robert Lee, 'from the great semi-

lunar valvular-like venous openings in the lining membrane of the uterus, and of the arteries which are laid open by the separation of the placenta, that the blood alone flows in uterine hemorrhage.' I have made these quotations for the purpose of showing that the question at issue is one of a very complex character. It is one which has reference not only to the organ from whence the blood escapes, but to the particular system of vessels from which it is poured out also.

"On reflecting upon these circumstances, I was led to believe that some light might be thrown upon the question by ascertaining experimentally the source of hemorrhage in an animal whose placenta, like that of the human female, was both decidual and fœtal. A pregnant bitch was accordingly obtained, which had nearly completed the full period of gestation, and it having been placed under the influence of chloroform, the uterus was exposed and opened, and the following observations were made.

"I. It was observed on separating the placenta that blood flowed freely and continuously from the denuded uterine surface, increasing with the detachment, whilst none escaped from the detached portion of the placenta.

"II. That the blood which escaped from the uterus was distinctly arterial, being of a bright arterial character.

"III. On rupturing a placenta whilst still partially adherent to the uterus, it was found that a small quantity of dark venous blood escaped from the part torn, but only to a very trivial extent.

"These observations were made with different placentæ, and uniformly with the same results.

"Thus it would appear, in the canine species, that the source of hemorrhage in cases in which the placenta is partly detached, is exclusively the denuded uterine surface, so long as the placenta is entire; that the hemorrhage which takes place is of an arterial character; and that although a certain amount of blood may escape from the placenta, if lacerated or torn whilst still partially adherent, yet that this is very trivial in quantity and of a dark venous character.

"Considering, however, the different distribution of the veins in the maternal portion of the placenta in the human and canine species, I am aware that this experiment cannot be regarded as decisive of the source of hemorrhage under similar circumstances in the former. We know, for instance, that in the human placenta the utero-placental arteries open into large cells or dilated capillaries in the maternal portion of the organ, between which a free inter-communication exists; whereas in the bitch, the venous vessels of the maternal part of the placenta do not constitute a cellular or cavernous structure, but in form and distribution resemble ordinary veins. These circumstances were particularly pointed out by Dr. Sharpey, to whom I communicated the results of the experiment I have related, and, in the course of a subsequent conversation, he observed that, in his opinion, the best mode of ascertaining the source of hemorrhage in partial separations of the placenta in the human female, would be to obtain a uterus to which the placenta was still partially adherent, to inject the hypogastric arteries with defibrinated blood, and to observe whether it escaped from the uterus, the placenta, or from both.

"In the early part of April, 1853, I had an opportunity of carrying out this suggestion. A poor woman, under the care of Messrs. Clark, Norway, and myself, died of hemorrhage during the progress of a labor, rendered protracted by malposition and impaction of the fœtal head. A *post-mortem* examination of the body was made on the following day, and as it was found that the placenta was still partially adherent, although much of it had been detached, it appeared to me that it would serve the purpose in view. Accordingly the uterus and placenta were removed to University College, where the following observations were made, under the immediate superintendence of Dr. Sharpey.

"The uterus, which had been cut off somewhere above its orifice, was first carefully inverted, and several loose unadherent coagula were removed from its interior. It had the appearance of being very exsanguine, and on the surface from which the placenta had been detached, the ramifications of the utero-placental arteries could be plainly seen, but free from any plugging or coagula; about a fifth of the placenta was still adherent. In the next place, the vessels along

the cut surface of the uterus were secured by ligatures placed along the line of its division, and the hypogastric and ovarian veins were also secured by ligature. An injecting pipe was now fixed in one of the hypogastric arteries, and some defibrinated blood was steadily injected. The results of the operation were as follows. The blood escaped freely from the orifices of the uteroplacental arteries, which had been torn across by the separation of the placenta; none escaped from the torn utero-placental veins, nor did any pass away from the placenta. The injection was continued for some time, but with no variation in the results. It was now thought advisable to ascertain the force with which the blood was injected; and, tested by the hæmadynamometer, it was found not to exceed that of the heart, acting under ordinary circumstances. In the next place, the opposite hypogastric artery was injected; and in this case it was found, as in the other, that blood escaped freely from the orifices of the torn utero-placental arteries, that none passed out of the torn utero-placental veins; whilst in this case a small quantity escaped from the surface of the placenta, contiguous to that which was still adherent. The injection was repeated several times with the same results; the great bulk of the injected blood escaped readily from the orifice of the torn utero-placental arteries, a small quantity only came from the placenta, whilst none could be observed to pass out from the torn utero-placental veins, whose orifices were plainly visible and carefully watched. Nor, it should be added, were the vessels plugged with coagula.

“ Looking, then, to the results of this experiment, it would appear that the source of hemorrhage in partial but extensive separations of the placenta is principally uterine, and only slightly placental, and, further, that it is arterial rather than venous. It would, however, be too much to assume that the experiments are conclusive as to the source of hemorrhage in all cases of placental separation. It must be remembered that in this case the placenta was very greatly detached, and as, consequently, little blood only could have entered it, much could not be expected to have escaped from it; whilst, again, the tonicity of the arterial system could not have been great during life, as evidenced by the little resistance offered by the utero-placental arteries to the escape of the blood injected. Admitting, however, the full force of these and other considerations, it yet appears to me that the results of this experiment, coupled with those of the one previously related, and taken in connection with various clinical facts, afforded strong grounds for the belief that the *principal* source of hemorrhage in cases of partial separation of the placenta is uterine rather than placental, and arterial rather than venous.

“ What, then, it may be asked, are the grounds upon which it is affirmed that these hemorrhages are respectively either venous or placental? The best reply to this question is probably that given by Dr. Simpson, in the passage I have quoted from his writings. ‘ Uterine hemorrhage,’ he observes, ‘ after separation of the placenta in any of the stages of labor, is *not arterial* in its character, because the utero-placental arteries are so long and slender as to become readily closed. 1. By the tonicity of their coats. 2. By contraction of the uterine fibres upon them. 3. Principally by the changes in their tissues produced by the mechanical rupture of their coats.’ These, probably, constitute the entire grounds upon which the opinion in question is maintainable, and I will therefore proceed to consider respectively their nature and validity.

“ I. The assertion ‘ *that uterine hemorrhage after the separation of the placenta in any of the stages of labor is not arterial in its character,*’ is one which, so far as I am aware, is not only unsupported by any evidence, but directly at variance with many trustworthy observations. On the 23d of September, 1853, I had an opportunity of investigating this point, and of satisfying myself that the hemorrhage which took place from the uterus between the birth of the child and the expulsion of the placenta was distinctly of an arterial character. On the 10th of October, 1853, whilst in attendance upon a case of labor, my attention was directed to a rather profuse flow of blood which followed the birth of the child; and I observed, as it passed over the vulva, that whilst the greater part was of a bright arterial color, a small portion was of a dark venous hue; the striking difference in the color of the two portions left no doubt in my mind that they were respectively arterial and venous. The same thing was observed in the

experiment I have related, in which the placenta was detached from the uterus of the bitch. The blood which flowed freely from the denuded uterine surface was of a bright florid color, and such as to convince both Mr. Marshall and myself that it was arterial. I further find that the observations I have myself made, as to the character of the blood lost in uterine hemorrhages, are similar to those which have been made by other medical men; and therefore, in the absence of any evidence to the contrary, we may, I think, conclude that uterine hemorrhage after the separation of the placenta is rather of an arterial than a venous character.

"II. The second point affirmed is, '*that arterial hemorrhage from the uterus is prevented by the tonicity of the utero-placental arteries*.' It is far from my intention to assert that, in a state of health and tranquillity of the circulation, this is not the case; but, under other circumstances, it may be doubted whether the principle in question can be relied upon for the attainment of this object. The tonicity of the arteries, like every other vital property, is liable to be modified or affected by a variety of circumstances; and, regarded as a modification of the principle of contractility, may be supposed to be influenced by the same general causes; to be increased by those which tend to augment the strength and vigor of the body, diminished by those which tend to enervate or exhaust it, and disturbed by those which tend to disturb the nervous and vascular systems. Now, if we consider the circumstances under which uterine hemorrhages are most liable to occur, we shall find that they are respectively those which tend to enervate or exhaust the constitutional powers, on the one hand, or morbidly excite or disturb the vascular system on the other. One of the most alarming cases of *post partum* hemorrhage which I have ever witnessed occurred in the wife of an eminent obstetric physician, whose nervous system and energies had been prostrated by the unexpected death of her mother about three weeks before the accession of labor. The poor woman, whose uterus was the subject of the experiment I have related, died of internal hemorrhage consequent upon partial separation of the placenta, when her strength had been exhausted by long parturient efforts; and numerous cases are related of fatal hemorrhages occurring in women who had been previously anæmic and weakly. On the other hand, every practitioner must have met with profuse uterine hemorrhage in connection with morbid excitement of the heart and circulation; and hereafter it will be shown that, of the causes of such excitement, some have a sympathetic, and others a direct mode of operation. Further, I may appeal to the condition of the utero-placental arteries in the case of the patient who died of uterine hemorrhage, as showing that no plugging or particular contraction of them had taken place during life. Here, indeed, was a physical demonstration of the condition of these vessels, as they must have existed during life, after fatal hemorrhage consequent upon partial separation of the placenta, the placenta having been separated during life; and if it can be clearly shown, as it was, that they had neither been so contracted or plugged during life as to prevent the escape of blood from them when injected with no more force than that of the heart's action after death, then it must follow that neither could they have prevented the escape of blood from them during life, when injected under the ordinary force of the circulation. On these grounds, then, we may venture to doubt the correctness of the dogma, that the tonicity of the utero-placental arteries is, under all circumstances, capable of preventing the escape of blood from their orifices when torn across by the separation of the placenta.

"III. In the next place, it is affirmed '*that hemorrhage from the utero-placental arteries is prevented by contraction of the uterine fibres upon the course of these vessels, as they pass through and amid the uterine structure*'—a doctrine which is manifestly at variance with the well-known fact, that there is often no direct relation between the degree of uterine contraction and the degree or tendency to uterine hemorrhage. 'The observing practitioner,' says Dr Gooch, 'must have been frequently struck by the little proportion that existed between the want of contraction and the degree of hemorrhage, having found the uterus bulky without any hemorrhage, and a profuse hemorrhage without greater bulk of uterus. Nay, further, I have witnessed a profuse hemorrhage, though the uterus had

contracted in the degree which commonly indicates security; and I have ventured to do what is seldom justifiable, separate the placenta before the uterus had contracted, without more hemorrhage than after a common labor.' The correctness of these remarks, and their pertinency to the question under consideration, must, I think, be generally admitted; but, besides these, two other series of facts may be adduced in opposition to the doctrine above propounded. First, that in several instances, the placenta has been spontaneously or artificially separated from the uterus before the birth of the child, and, consequently, under circumstances in which contraction of the uterus could not take place, without any hemorrhage supervening; and, secondly, that when it has been attached to the os and cervix uteri, its separation has been effected in many cases without any particular hemorrhage resulting, although it is affirmed by some anatomists that there are few or no contracting fibres in the structure of the os and cervix uteri.

"IV. The last proposition affirmed—'*that hemorrhage from the utero-placental arteries is prevented by the changes in their tissues produced by the mechanical rupture of their coats, torn arteries being little or not at all liable to bleed, and the placenta being separated by a true process of avulsion,*'—is completely invalidated by the results of the experiment performed upon the pregnant bitch, which I have described in the former part of this paper; for, on detaching the placenta from the uterus, and thereby lacerating or tearing through the utero-placental arteries, arterial hemorrhage was observed to follow. That is to say, having separated the placenta by a true process of *avulsion*, it was demonstrated that such proceeding was not productive of those changes in the torn coats of the utero-placental arteries which are assumed to follow such operation, and by which, it is alleged, arterial hemorrhage is prevented. And, to appreciate the full force and importance of this fact to the present inquiry, it is necessary to bear in mind that the placenta of the canine, as of the human species, possesses a maternal as well as a foetal portion; that the utero-placental arteries in both pass from the uterus into the maternal portion of the organ, as do the utero-placental veins from the latter to the uterus; and that the chief difference in the anatomical structure of the two organs consists in the different distribution of the veins in their maternal portions. Accordingly, it must follow that a separation of the placenta must equally give rise to a laceration of the utero-placental arteries in both species, and if it is clearly shown that hemorrhage from these arteries is not thereby prevented in the one, it must follow that it cannot thereby be prevented in the other.

"I have thus critically examined the several grounds upon which it is alleged that hemorrhage does not occur from the torn utero-placental arteries in cases of partial separation of the placenta; and, having shown the insufficiency of the data upon which this doctrine has been assumed, I proceed to observe that if blood does actually escape from these vessels, it must follow that proportionately little will escape from either the uterine veins or the placenta, because, according to the well-known laws of hydraulics, fluids circulating in closed vessels will only continue in their regular course when due pressure is maintained upon them. Now, under the circumstances stated, this condition is not fulfilled; and, accordingly, the greater part of the blood entering the utero-placental arteries will escape from their open orifices rather than be continued onwards into either the uterine veins or placenta. In this respect, it must be borne in mind that the character of the utero-placental circulation must materially differ before and after separation of the placenta. In the former case, the pressure upon the circulating blood is equalized throughout; whereas, in the latter, it is unequally distributed, and accordingly there will be a tendency to hemorrhage where this pressure is removed, or wherever openings exist in the utero-placental arteries.

"The correctness of this view is further supported by a variety of circumstances, which go far to prove that the principal source of hemorrhage in these cases is neither the uterine veins nor the placenta. As opposed to its placental origin, I may mention: First, the character of the blood lost, which, as I have stated, is principally arterial rather than venous. Secondly, the rapidity with which the blood escapes, and its fluidity in many cases of puerperal hemorrhage, would tend to show that it was rather poured out directly from the utero-placental

arteries, than indirectly from the placenta. Thirdly, the peculiar cellular, cavernous, or reticulate structure of the maternal portion of the placenta, may be referred to as being calculated to prevent placental hemorrhage, by producing stagnation and coagulation of the blood in this part of the organ, when separated from its vascular connection with the uterus. Fourthly, the occurrence of profuse hemorrhage after the entire separation of the placenta, both before and after the birth of the child, may be referred to as showing that it has no necessary dependence upon this organ. Fifthly, the small amount of blood which escaped from the placenta when the utero-placental arteries were injected in the experiment I have related, affords strong evidence against the placental origin of these hemorrhages. Whilst, sixthly, the escape of blood from the orifices of the torn utero-placental arteries, by lessening the quantity of blood which would otherwise enter the placenta, affords an additional argument against their placental origin.

“As opposed to the venous origin of the hemorrhage, I may adduce the following facts: First, that the blood lost is for the most part not venous. Secondly, the absence of hemorrhage in many cases in which those conditions exist which are most favorable to the occurrence of venous hemorrhage, namely, relaxed and distended states of the uterus. Thirdly, the absence of hemorrhage in many cases in which the placenta has been attached and separated from the os and cervix uteri; where the contractile mechanism of the uterus does not exist, by which it is alleged venous hemorrhage is prevented. Fourthly, the occurrence of profuse hemorrhage when the uterus is contracted, and when consequently the uterine veins must be firmly compressed. Fifthly, the escape of blood from the orifices of the torn utero-placental arteries; which would equally tend to prevent venous as well as placental hemorrhage. Sixthly, the fact that no blood was observed to flow from the uterine veins when the utero-placental arteries were injected in the experiment I have related. Seventhly, the normal course of the uterine circulation being from the uterine veins to the vena cava, it must follow that venous hemorrhage can only occur as the result of a retrograde, and consequently abnormal, movement of the blood.

“Upon the whole, then, two things would appear to be certain: first, that, no *necessary* relation exists between the degree of hemorrhage and the degree of separation of the placenta; or, secondly, between the degree of hemorrhage and the degree of contraction of the uterus; uterine hemorrhage having been variously moderate or excessive under similar degrees of separation of the placenta, and similarly moderate or excessive under the opposite conditions of relaxation and contraction of the uterus. Can it then be doubted that the absence of, or disposition to uterine hemorrhage must depend, in many cases, upon other causes than the anatomical connection of the placenta with the uterus on the one hand, or the contractile mechanism of the uterus on the other; or further, that these are to be sought for in the occurrence of arterial hemorrhage, and the various conditions of the utero-placental arteries, as modified by the general condition of the arterial system? Bearing in mind this view of the case, we can understand how it may happen that, the tonicity of the arterial system being great, uterine hemorrhage may be prevented when the uterus is most relaxed and when consequently the conditions most favorable to venous hemorrhage exist; that under the influence of morbid excitation of the heart and arteries, it may be profuse when the uterus is contracted, and when, consequently, venous hemorrhage would be most effectually prevented; and that its degree may vary in different cases with the same amount of separation of the placenta. Let me, however, be distinctly understood as speaking of *pathological*, rather than of *physiological* puerperal hemorrhage; and of its *principal*, rather than of its *exclusive* source; because on the one hand it can scarcely be supposed, that the placenta can be separated from the uterus, under the most favorable circumstances in child-birth, without some hemorrhage resulting, which therefore cannot be regarded as pathological; nor, on the other can it be supposed that such hemorrhage should be derived exclusively from the torn utero-placental arteries. It has indeed been experimentally shown that some blood does actually escape from the detached portion of the placenta when the hypogastric arteries are injected, and the quantity so escaping will doubtless vary in different cases; and I have referred to an ob-

servation in which venous blood was discharged mixed with arterial, in a case in which hemorrhage preceded the expulsion of the placenta. It is therefore highly probable, that in all cases the source of hemorrhage is of a mixed character. But, looking to its source in those which are so considerable as to endanger the safety of the patient, it appears to me that the facts adduced are sufficient to justify the conclusion that it is principally arterial; and that, although blood may simultaneously escape from the utero-placental veins and placenta, the quantity lost by these channels considerably falls short of that which escapes from the torn utero-placental arteries.

"In conclusion, we may, I think, deduce from a consideration of these facts some rules of practical importance in the treatment of puerperal hemorrhages, whether occurring in connection with partial or complete separation of the placenta. In particular, we may learn the importance of treating them upon broader principles than those derived from a consideration of the condition of the uterus or the degree of separation of the placenta; and the necessity of investigating carefully the physiological and pathological states of the nervous and vascular systems, both before and during labor, with a view to the adoption of measures of a preventive as well as curative character. It is not my intention to enter at length upon this subject; but a brief reference to the principles upon which the prevention of puerperal hemorrhage should be attempted, will not be inconsistent with the object of this paper.

"Apart from the anatomical condition of the uterus and placenta, it will be found in practice that hemorrhage during labor is liable to be excessive, in connection with two opposite states of the vascular system. In the one, there is morbid excitement of the heart and arteries, directly or sympathetically induced; in the other, there is a state of extreme depression of the circulation; dependent either upon atony of the bloodvessels, or an impoverished condition of the blood. As both these conditions may exist and be recognized before the accession of labor, I will briefly advert to the curative indications they suggest.

"Hemorrhage occurring during labor, in connection with inordinate excitement of the circulation, has been well illustrated by Dr. Gooch, as well as the treatment it requires, in his paper on a peculiar form of hemorrhage from the uterus. The patient before the accession of labor was flushed, and had a very full quick pulse. Abstinence from meat, wine, and warm drinks, a cool room, and a saline purgative, diminished but did not remove this state of the circulation, which continued in a considerable degree when the child was born. It was expelled very gradually, and after the removal of the placenta the uterus felt contracted in the ordinary degree. Nevertheless, about twenty minutes afterwards, there came on one of the most frightful hemorrhages, which, Dr. Gooch observes, he had ever witnessed. Twelve months afterwards he attended the same patient in a subsequent labor, and was struck on observing the same state of circulation which had preceded the first. The labor proceeded naturally, but was again followed by profuse and alarming hemorrhage. Reflecting upon these facts, Dr. Gooch was led to believe that the hemorrhage depended not upon want of contraction of the uterus, but on want of tranquillity of the circulation; and he concluded if she again became pregnant, that a mode of treatment which would cause her to fall in labor with a cool skin, and quiet pulse, would be the best means of preventing a recurrence of the accident. In due time he had an opportunity of testing this practice; and although in the first instance he was unsuccessful, yet in another, by means of an abstemious diet, saline aperients, and the moderate abstraction of blood from the arm before delivery, the labor was completed without the smallest degree of flooding or faintness. The principle upon which this variety of uterine hemorrhage should be treated, is sufficiently indicated in these details.

"In a second series of cases it has appeared to me that hemorrhage during labor has been immediately dependent upon a disordered state of the circulation, excited by functional derangement of the liver and digestive organs. Such patients suffer for some time before labor, from constipation, flatulence, and other symptoms of indigestion; and if the stools are examined, they are found to be of a pale or clay color.

"Profuse hemorrhage, under these circumstances, may either immediately

follow the birth of the child, or may continue to recur for some time after labor. In two instances recently attended by me profuse hemorrhage followed delivery; and in both the state of the hepatic functions was such as I have described. The recurrence of hemorrhage led to an examination of the stools; in each case they were found to be clay colored; and almost destitute of bile, and on restoring the action of the liver, the disposition to hemorrhage was in each case removed. From these facts I have been led to believe that many instances of puerperal hemorrhage might be prevented by inquiring into the condition of the liver and digestive organs before labor, and adopting such means as would rectify any derangement which might exist.

"The second class of cases I have referred to are those in which puerperal hemorrhages occur in connection with an enfeebled state of the circulation; and this, inasmuch as it may have existed long antecedently to labor, is eminently amenable to preventive measures of treatment. It is met with in females whose physical health has been deteriorated or depressed by bodily disease, laborious or unhealthy occupations, or mental anxiety, and comprehends a very numerous category. In these, either from atony of the bloodvessels, or an extreme fluidity of the blood, but little or no barrier is opposed to the escape of this fluid; and if preventive treatment has not been adopted, but little good will sometimes result from any other. In all such cases the treatment should be of a prospective character, and directed to the improvement of the health before labor by the employment of such measures, hygienic and medicinal, as will amend the condition of the blood and augment the tone and vigor of the arterial system. In proportion as anæmia preponderates, iron will be indicated; where atony of the nervous and vascular systems is the more prominent condition, strychnia should be preferred; whilst in cases in which both these pathological elements co-exist, a combination of both remedies will answer best.

"As regards curative treatment, I would wish more especially to direct attention to the advantages likely to be derived from the employment of galvanism in these cases; not, indeed, locally applied to the uterus, but employed in a more general and diffusive manner, with the view of imparting increased tone to the arterial system at large. This, I believe, may be accomplished by passing somewhat powerful single currents from the upper portion of the spinal cord through the uterus. The opportunities I have had of observing the action of galvanism in obstetric practice, induce me to think favorably of it in these cases, and some investigations commenced with the view of determining its power in arresting arterial hæmorrhage support this opinion; whilst it must not be forgotten that several cases have been published in which uterine hemorrhage has been thus speedily arrested. I will only add, that if my view of the source of hemorrhage in cases of partial separation of the placenta is confirmed, it will prove a most valuable auxiliary in the treatment of placenta prævia; simultaneously tending to the arrest of hemorrhage and the dilatation of the uterus."

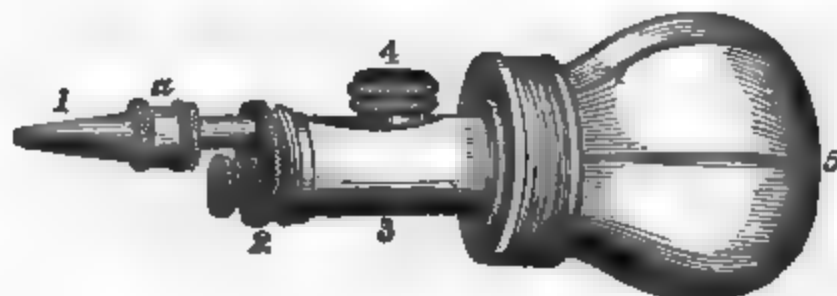
1. *On local application of the vapors of Chloroform in the treatment of various diseases, especially in those of the uterine organs, with the description of an instrument invented for the purpose.* By S. L. HARDY, M.D., Examiner in Midwifery in the Royal College of Surgeons in Ireland. (*Dublin Quarterly Journal of Medicine*, November, 1853.)

2. *On the use of Chloroform and other vapors, when applied locally in the form of vapor baths, &c.* By S. L. HARDY, M.D. (*Dublin Medical Press*, Feb. 25, 1854.)

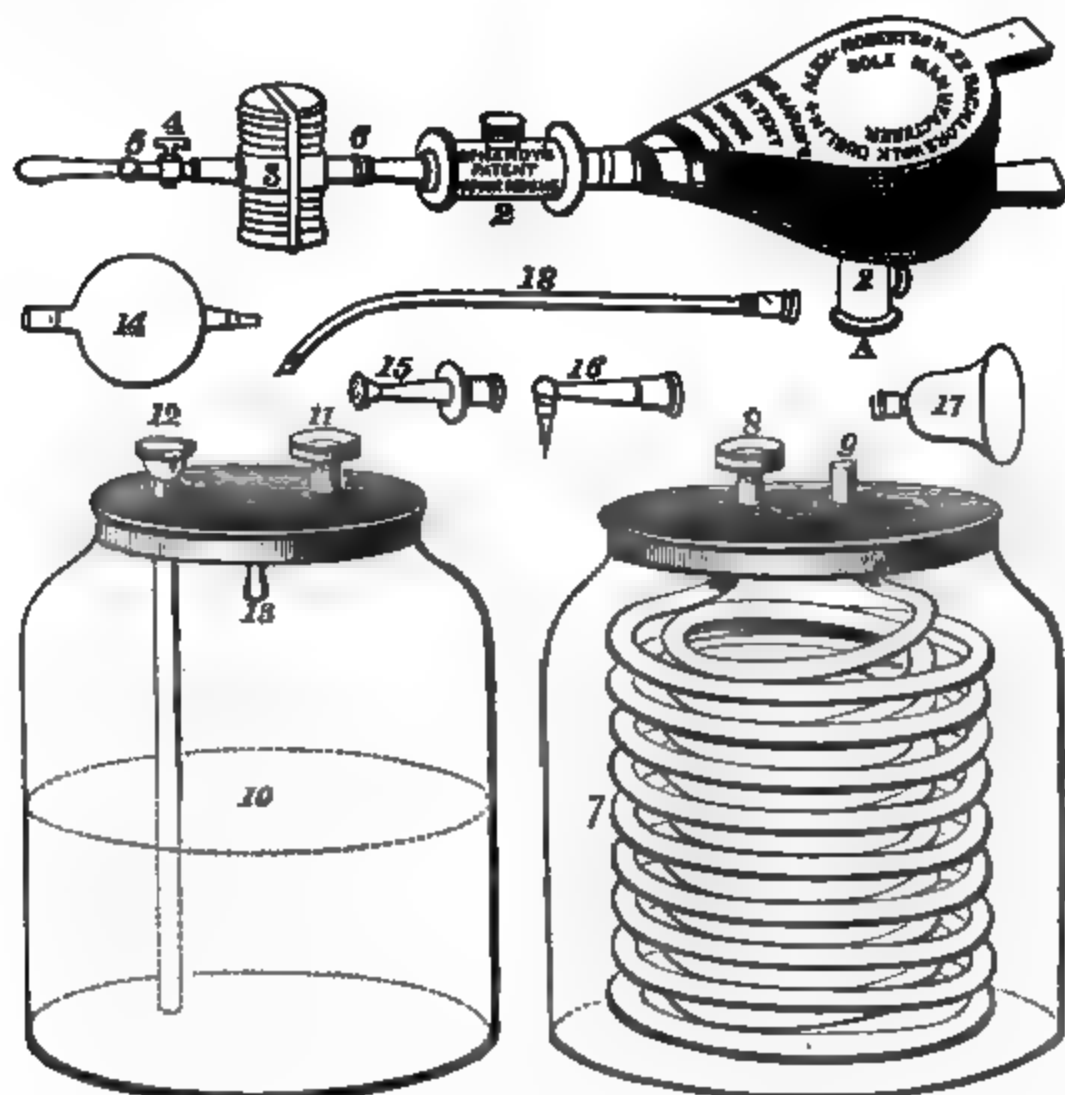
In Dr. Hardy's hands the local application of the vapor of chloroform has proved of signal benefit in relieving many painful and distressing uterine affections, and we would wish to call attention to the subjoined cases as the best commentary on this fact. We must state, however, that the benefit of these applications is not confined to this class of cases. On the contrary, Dr. Hardy expects that this practice will be applicable to almost all kinds of painful malady, and that it will even serve to induce a local anæsthesia which is sufficiently deep to allow the performance of surgical operations without pain. That it will serve to abate pain in several painful disorders, proof has been already obtained,

and we have incidentally related such a proof elsewhere; but how far it will serve to produce anæsthesia remains to be seen. It has answered in one or two instances; but so far as experience has yet gone—and it has gone to a considerable extent in France—there are not many sufficient reasons to allow one to be very sanguine on this head. We would, however, pass over the general applications of the practice to notice its particular application to the relief of uterine maladies, for here at least we may find much matter for profitable reflection.

Dr. Hardy has employed two “anæsthetic douches” for the purpose of applying the chloroform vapor. The first (which was used in all the cases related below) consists of a small metallic chamber (3), containing within it a sponge



for holding the chloroform, having at one end a gum elastic bottle (5), and at the other a pipe (1) (containing a valve (α),) for transmitting the vapor. At the distal end of the chamber is a second valve (2), to admit atmospheric air into the gum elastic bottle. The sponge in the chamber is charged with chloroform by a screw stopper (4).



The second instrument is much more complicated. It is calculated to afford a large and continuous supply of chloroform vapor, along with hot air or the vapor of hot water, or cold air, as the case may be. It consists of several parts.

The main part of the instrument is a bellows constructed partly of vulcanized india-rubber. This bellows is furnished with two sponge-chambers for chloroform (2, 2), one on the under surface where the air is admitted, and the other at the mouth where the air is expelled. This second chamber is provided with the nozzle, to which is affixed, by means of a screw (6), a chamber (3), constructed like an harmonicum, and made to react upon the jets of vapor escaping from the bellows, and convert them into a continuous stream, by means of an India-rubber ring passed round it, as shown in the diagram. This elastic chamber is provided with an escape tube, furnished with a stop-cock (4), upon which tube are screwed conveyance-pipes of various kinds according to the locality to which the application is to be made (5, 15, 16, 17, 18) *. If it is wanted to apply the vapor of hot water along with the chloroform, the inferior sponge-chamber of the bellows is screwed (at A) upon the escape-opening (11) of the jar (10). This jar is filled half full of hot water, the temperature being kept up by a spirit-lamp, if necessary, and regulated by a thermometer suspended from a hook in the interior (13). On working the bellows, the air enters this jar through the entrance-tube (12), becomes heated in passing through the water, and at the same time charged with watery vapor; enters the bellows through the escape-opening (11), and so passes out through the elastic chamber, becoming charged with chloroform in its passage through the sponge-chambers. If much chloroform is wanted, this jar may be made to hold chloroform instead of water, and so the air may be partly charged with this vapor before it reaches the sponge-chamber. If it is desirable to apply the chloroform along with cold air, the inferior sponge-chamber of the bellows is screwed (at A) upon the end (8) of a long coil of tubing (7), which coil is immersed in a freezing mixture. The air, entering this coil at its free extremity (9), becomes cooled in its passage before it arrives at the bellows.

With these preliminary remarks, we leave Dr. Hardy to tell his own tale.

"CASE 1—Mrs. L, æt. 45, a very large, strong-looking woman, weighing about eighteen stone, the mother of seven children, her youngest five years old, had frequent attacks of uterine hemorrhage at irregular periods, which she supposed to be menorrhagic, as her regular menstruation, she said, had not ceased when those irregular hemorrhagic discharges began. Little notice was at first taken of them, but as they resisted the means adopted by her medical attendants, it was deemed necessary to have the uterus examined, for which purpose I was called to see her on the 19th of February, 1853.

"I learned that, besides hemorrhage, she had in the intervals a most offensive muco-purulent discharge: there was a sensation of burning experienced in the loins, the bladder was more or less irritable, and the bowels were generally confined, the alvine dejections being of an exceedingly dark color, and looking as if streaked with blood. altogether she felt nervous to the greatest degree, and had become remarkably pale and weak from hemorrhage, which was not only frequent in its returns, but very profuse.

"On examination with the finger, the uterus felt extensively affected by carcinoma; ulceration had destroyed the cervix to a great extent; the edges of the ulcerated parts were most exquisitely tender to the touch, sharp and severe pain being complained of, from the gentlest pressure with the finger.

"Under the use of astringent and soothing lotions, cupping over the loins and sacrum, with tonics, &c., given internally, the hemorrhage ceased, and only returned at long intervals, and mostly owing to some accidental circumstance, such as a drive on a rough car, violent mental emotions, to which her exceedingly nervous temperament made her peculiarly liable, or awkwardness on the part of her nurse in using the syringe when injecting lotions. The sensation of heat in the loins was also relieved in the course of a few days, and only troubled her occasionally; constipation of the bowels invariably increased her sufferings,

* Figs. 18 and 14 have nothing to do with the application of chloroform vapor to the uterine organs; Fig. 18 being a male catheter, for the purpose of applying the vapor to the male bladder, and Fig. 14 a glass or platinum chamber for holding mercury or iodine, and which has to be screwed on between the elastic chamber (3) and the conveyance-pipe (5), when the instrument may be wanted for mercurial or iodine fumigations. Our engraver, in point of fact, has copied more than was necessary for our present purpose.

and if unrelieved by aperient medicine frequently caused a recurrence of the hemorrhage. At this time she did not suffer much, nor had she the characteristic pains of carcinoma until the month of May. In order to avoid the necessity for giving opiates, when pain became severe, various remedies were resorted to, such as tincture of Indian hemp, camphor and extract of hyoscyamus, chloroform in draughts, cupping over the loins, and sacrum, tepid hip-bath, &c. A drachm of chloroform and a scruple of camphor mixed with an ounce of white wax ointment, to which was added occasionally a drachm of extract of belladonna, when rubbed over the loins, either after or without the use of the hip-bath, gave very great relief, and was exceedingly grateful to her.

"Gentle exercise, by driving in the open air, improved her appetite very much, and tended towards obtaining comfortable sleep for her at night. At length the pains became so severe that morphia draughts were frequently required. I now resorted to the local application of the vapor of chloroform, and with the most satisfactory results.

"When the vapor douche of chloroform was used for about two minutes the finger could be moved freely over the edge of the ulcerated uterus without causing the least degree of pain, which never was the case before. The patient said she had a feeling of warmth or heat during the action of the vapor, which was soon succeeded by a numb sensation.

"The first time that pain required the chloroform to be applied, the suffering was perfectly removed in a few minutes, and the relief was so great that, on withdrawing the instrument, she fell into a most refreshing sleep, and had an excellent night's rest. It is now always resorted to when the pain must be quieted, and is very much preferred by the patient for that purpose to the morphia draughts, as she says her head is free from uneasy sensations the next day, which is not the case when she takes morphia.

"For the following cases, Nos. II and III, chloroform vapor seems to be particularly well suited. Before making a trial I had expected good results from its application, but the rapidity of its action in giving relief in each, and the permanency of the ease afforded in case No. III exceeded my hopes very much. It is deserving of notice, that in Case II the duration of the menstrual period was much lengthened, from which circumstance it may be inferred that the application has not only the effect of saving the patient from her usual degree of suffering, but, by subduing the spasmodic action of the uterus, tends towards the production of a more natural secretion. As yet, I have not had an opportunity of testing its efficacy thus in the patient of Case III, it is her intention, however, to resort to its use when next about to menstruate, so that at a future time the results may be laid before the reader.*

"CASE II—Miss R., æt. 25, was for some months under treatment for disease of the uterus before coming under my care.

"When I first saw her on the 13th September, 1853, she informed me that the ulceration which had affected her womb was for some time healed (which statement was verified by examination), and that she now suffered from very intense pain in that organ, which seized her every morning on awakening, and continued more or less during the day, accompanied by painful sensations in the lower part of the back. Menstruation was regular in its return, but its approach was attended with very severe pain, the secretion was very scanty, and continued but for one day only. Her appetite was not good, and she was exceedingly nervous and weak.

"Part of the treatment I adopted with this lady was the application of the vapor of chloroform to the uterus, which she was able to do herself. A very few days had passed when she told me the vapor always relieved her, and she felt improved under its use, and when applied at night going to bed she had the pain much less severe next morning.

"On the 19th she had the sensations usually experienced on the approach of menstruation, which on former occasions were, as already noticed, exceedingly painful, but at this time she resorted to the chloroform vapor, which had the effect

* Since the above was in print, we learn that this patient applied the vapor, and for the first time in her life menstruated without pain.—Esa.

of rendering her perfectly comfortable, and the secretion, which usually lasted for but one day, now continued for three.

"CASE III.—Mrs. F., æt. 25, a strong-looking woman, first came under my care on the 23d of April, 1853. Shortly after marriage, which took place three years before this date she aborted; since then she did not again become pregnant. Menstruation, both before marriage and to this time, was always very painful; the discharge scanty, and dysmenorrhœal membrane frequently expelled.

"For the last two and a half years her health and strength very much declined, and she suffered from severe pain in the back and uterine region, attended with leucorrhœal discharge. On examination by the speculum excoriation of the os and cervix uteri was discovered, which soon got well under the treatment adopted.

"On the 15th of September she again consulted me on account of a return of the severe lumbar and uterine pain which had troubled her for some time past, but on the day previous to her coming to me was so excruciating and accompanied by so much pain in her breasts, that she thought it impossible she could have borne it. This day the pain in her breasts was better, but in other respects she suffered nearly as much as on yesterday, from pain in the pubic and uterine regions, and back. The uterus was tender to the touch when examined by the finger internally, but no abrasion of the os or cervix was discovered by the speculum. The vapor of chloroform locally applied by the anæsthetic douche, had the most immediate and happy effects. In no case that I have met with did relief so instantly succeed to its use. Not more than a minute could have passed from commencing its application when the patient expressed herself relieved from, first, the lumbar pain, and next, that in the pubic and uterine regions. After I had withdrawn the instrument, for some time a sensation of warmth, of a very agreeable nature, combined with that of strength, was described as being felt in the back. Altogether, she said, for months she had not been so free from pain or so comfortable. Judging from the expression of countenance, the change so immediate from suffering to freedom from pain was most remarkable. There was no return of it until about eight o'clock in the evening, from the time of the application of chloroform during the day, which was between twelve and one o'clock; but it was then so trivial that she did not think anything of it. The next day two or three jets of the douche quite removed every trace of uneasiness. The patient said she was not only relieved of the pain in her back, but she was perfectly free from a bearing down sensation which had troubled her very much for some time past.

"The drain of suckling on a weak constitution tends to the production of many debilitating and nervous complaints, which are met with very frequently in the form of headache, giddiness, pain in various situations, &c. The following case affords an instance of this description. The subject of it was very unfit to act in the capacity of wet nurse, and was rendered still more unfit by the occurrence of uterine hemorrhage. Increased debility, as a natural consequence, followed the loss of blood; then came on violent lumbar and epigastric pains.

"The remedies usually resorted to in such cases, and which are very beneficial, consist in tonics and anti-spasmodics, to which must be added a full and generous regimen, with exercise in the open air; but in the present instance it was very desirable to relieve suffering immediately, which was of a very severe nature and, in itself, independent of the previous drain, exceedingly debilitating to the patient's constitution. The vapor of chloroform served to effect this in a most satisfactory manner, and within the space of a much shorter time than could have been accomplished by any other remedy with which I am acquainted, while it in no way prevented the adoption afterwards of those means which were fitted to restore strength and vigor.

"CASE IV.—Mrs. K., æt. 32, a delicate-looking person, the mother of six children, at present nursing her youngest, a child of seven months old, was seized in August last with violent uterine hemorrhage, since which occurrence her back troubled her very much, and for three days previous to my seeing her was accompanied by severe pain, referred to the epigastric region. Owing to the

violence of her sufferings she came to consult me about three weeks after the attack of uterine hemorrhage. She seemed in great pain, and was bent forward from that in the epigastrium, which she described as running across from right to left. Immediate relief was anxiously sought for: I therefore proceeded to apply the vapor of chloroform to the uterus, *per vaginam*, by the anæsthetic douche, in hopes of giving her ease sooner in this way than by any other means. I had scarcely sent a half-a-dozen jets against the os uteri when the pain subsided, first in the back, and immediately after in the epigastrium. The sensation perceived by her she described as being a most agreeable and comfortable feeling of heat in the spine, and a total relief from every trace of pain, which ease she had been a stranger to for the last three weeks. On rising from the sofa to sit in the upright position she felt a little weak, but only for a few minutes. During the application of the vapor, she had no unpleasant or unusual sensation in her head, and the pulse seemed unaffected.

"When abortion frequently takes place in any female, but more particularly in one of a much-injured constitution, having in it the dregs of syphilis, diseases hard to manage, and attended with a good deal of distress, are occasionally presented to the medical man. The case next detailed is very much of this description. Various remedies were resorted to, but none of them served to secure perfect relief to the patient, whose situation in life rendered her peculiarly liable to relapse. She was the wife of a soldier, and consequently passed from the care of one medical practitioner to that of another, to which circumstance she referred much of her delicacy.

"It will be seen in the notes of the case that chloroform was used in the form of ointment with more relief than was obtained from any of the other remedies, but at length failed in procuring ease; however, by resorting to the vapor, the benefit derived was very decided, and far more effectual than had been before experienced from any previous plan of treatment. The patient herself felt so entirely free from her usual sensation, that her countenance now bore the expression of comfort and satisfaction.

"CASE V.—Mrs. R., æt. 33, a very weak, sickly-looking woman, came under my care on the 4th of April, 1853, on account of uterine hemorrhage, which had followed a miscarriage she had three weeks previously. She had brought forth three children, all premature, and had several abortions. From her general appearance, and the history of her case, I found that a syphilitic taint was in the constitution; and the want of proper advice and care at all times, but particularly in her abortions, had added much towards increasing her delicacy. After the hemorrhagic discharge was altogether restrained, it was discovered that ulceration of the os uteri existed, which got quite well under treatment. During the time that it was present, and for some time after its being healed, she suffered very much from pain in the back and loins, with a most distressing sensation of scalding in the vagina, which required numerous remedies for its relief. One of the most effectual was the ointment mentioned in Case I. Rubbing a little of this across the loins and over the sacrum was very soothing and agreeable.

"On the 12th of September she had a return of pain in the back and vagina such as I have described, but without a recurrence of ulceration of the os uteri. She resorted to the use of the ointment to her loins in the usual way, but without obtaining relief.

"On the 15th she was forced to come to me, having suffered so much during the previous night, and was evidently in very great distress. I now applied the chloroform vapor, by means of the anæsthetic douche, to the uterus and vagina. In about four or five minutes she experienced relief, first in the back, and presently after in the vagina. I continued its use for several minutes in order to render the effect more permanent, which so fully succeeded, that she walked away feeling quite comfortable and free from pain. When I next saw her, a few days after the application, she said relief was still felt by her, and that she had more ease than for a very long time previously."

* * * * *

"In observing the effects of chloroform as applied locally in the form of vapor in the above cases, I have endeavored to obtain as correct a notion of it as possible, in order that a true estimate might be arrived at of its value as a remedy.

Besides the cases here recorded. I have applied the vapor locally in various other forms of irritation. One of these in particular I was anxious to know its action in—namely, *pruritus pudendi*, a disease exceedingly troublesome and unpleasant to the patient, and for the relief of which she is often very reluctant to ask a remedy until forced to do so. I have used it in a case of this kind in the person of a very intelligent patient, who for a length of time had been annoyed, particularly on the approach of a menstrual period, by this distressing complaint, for which she had made use of various remedies. The vapor of chloroform, she informed me, afforded her relief from her uneasy sensations. On referring to one of the cases (Case V.) detailed, it will be seen that there was a very severe sense of scalding in the vagina, which seemed to depend a good deal on uterine irritation. Knowing the heat caused by the vapor of chloroform, I feared this patient should have suffered severely from its application; but, on the contrary, she was quite relieved of it, so in *pruritus pudendi*, arising from a similar cause, the like results have been obtained as in her case.

"If future investigation as to the effect of the vapor of chloroform when locally applied coincide with the results already observed in the series of cases herein detailed, it seems reasonable that the following conclusions be considered deducible.—

"First. That in many forms of disease attended with pain or irritation the local application of the vapor of chloroform will frequently act as quickly in affording immunity from suffering as though inhaled in the usual manner.

"Secondly That the vapor locally applied is not attended with any unpleasant effects (save the sensation of more or less heat), either at the time or subsequently, and is therefore eligible under circumstances contra-indicating its use by inhalation.

"Thirdly That as a remedy, its local application is preferable to the use of opium and most narcotics in spasmodic and painful affections, particularly of the uterine system, owing, first, to its freedom from causing derangement of the digestive organs, and, secondly, to its greater rapidity of action."

Cases of Laceration of the Perineum and Proculentia of the Uterus and Rectum remedied by Operation. By J. C. W. LEVER, M.D.; with a Letter by JOHN HILTON, F.R.S. (*Guy's Hospital Reports*, vol. iii., pt. ii., p. 401.)

These cases are of great interest, as exhibiting a new and simple, and to all appearance, effectual means of relieving these very distressing maladies. The letter by Mr Hilton, which is appended to them, renders all explanation on our part unnecessary:—

"E. S—, æt 32, was delivered of her first child on May 17th, by the assistance of the long forceps. During her pregnancy her health has been uninterrupted. For some time before labor was established, she had slight premonitory pains, these so increased on May 14th as to call for the exhibition of an opiate. On May 16th, A.M., the os uteri was about the size of a shilling, with a thin unyielding edge, and the pains recurred every half hour. At 11 A.M., May 17th, the os uteri was widely dilated, but rigid, the pains exceedingly violent, the passages hot, urine dribbling, scalp tumor large. V. S. ad 3x was practised, and a pint and a half of urine was drawn from the bladder. About noon the pains began to flag, and about 2 P.M., the surgeon in attendance deemed it right to apply the forceps, and succeeded in delivering a dead female child in about half an hour. For five or six days after her delivery she required the introduction of the catheter. On the third day after delivery she had an offensive discharge, which was relieved by vaginal injection, but continued for a fortnight. After her confinement she was unable to retain her feces, attributed by herself to simple relaxation. About a month after her confinement, while riding in an omnibus, she felt bearing-down pains, which were removed by lying in bed. On admission she complained of a sensation as if a foreign body was in the rectum. There were occasional discharges of blood from the bowels, but no pain when the evacuations passed. Her health was tolerably good, appetite moderate. On examination, the sphincter ani was found to be divided anteriorly by a laceration extending through the perineum, so that the feces passed

involuntarily; and on each side of the sphincter there were two or three congested hemorrhoids, which, on August 4th, were tied; the pain at first was severe, but soon subsided.

"Aug 7th—She complained of a sensation of cutting and smarting at the bottom of the coccyx; piles sloughing.—Ordered bread and water poultices

"11th—Tinct. myrrhæ ter die applic.

"13th.—Decidedly improved, had more control over the rectum. Laceration more healthy in appearance, and more contracted.

"20th.—Could retain the feces for a short time, but the pain in the back continued.

"26th.—The coccygeal attachments of the external sphincter and levatores ani were divided by a subcutaneous incision by Mr. Hilton; there was slight bleeding, which was checked by the application of a firm perineal pad and bandage.

"30th.—Catamenia were present for the first time since her confinement.

"Sept. 1st. She had now command on the rectum; but she felt a bearing-down pain after standing or sitting.

"7th—Slight ecchymosis on the point corresponding to the incision, there was a continuous surface of mucous membrane from the sphincter to the vagina.

"On Sept. 19th, she was presented.

"This patient, when last seen, two and a half years after the operation, had lost the pain and bearing down, and had full command over the bowels, except occasionally when the feces were very fluid.

"T. B., æt. 27, was admitted into Guy's Hospital on Dec. 12th, 1848. She had been married for seven months, had had a child at the age of 18: had from that time suffered from falling of the womb and leucorrhœa. Menstruation commenced at the age of nine, and had at all times been regularly performed. For three years the uterus had protruded externally, but not so much so as to interfere with the performance of her duties as servant of all work until within ten weeks prior to her admission. Her husband, a sailor, left her two weeks after her marriage, and she again took a situation, but this being more laborious than her former one, caused the uterus to protrude to a greater extent, with a considerable portion of the rectum. On admission, she complained of frequent attacks of headache, with giddiness; her appetite was extraordinarily large; she had constant craving for food; tongue was clean, but pallid; pulse feeble; countenance anxious. On examination, after she had been reclining in bed for twenty-four hours, the uterus was found to be much displaced, the os and cervix being external; there was no ulceration, but a copious glairy discharge flowed from the cavity. A considerable portion of the rectum protruded through the anal opening, its mucous membrane being intensely injected with blood, and very tender when touched. She complained of constant burning pain in the rectum, with inability to retain the feces if the stools were fluid.

"Mr. Hilton, who saw her on the 15th, advised perfect quietude, and that no surgical operation should be performed until the parts had had time to recover themselves to a certain degree, by the patient being kept in a recumbent position.

"26th—The displaced part had returned and continued up except on assuming the erect posture or going to stool; the mucous membrane of the rectum was much less injected, and the rugæ more distinct.

"Jan. 15th.—Improved, but displacement still occurred on changing her position.

"Feb 10th.—Mr. Hilton divided the coccygeal attachments of the external sphincter ani and the levatores ani by a subcutaneous incision with a bistoury; a sponge was passed into the rectum, and a compress and bandage applied externally to prevent bleeding.

"11th.—Had but little sleep last night; sponge withdrawn; no bleeding; employment of catheter necessary.

"16th.—Catheter required for two or three days after the operation; as her bowels had not been relieved since the 9th, a simple enema was administered last night, but this proving ineffectual, a soap enema was injected this morning; this had the effect of relieving the bowels almost immediately, but the rectum,

which had not protruded since the operation, descended to a slight degree, and caused her considerable pain.

"24th—Progressing very favorably. There was a hollow on either side of the inferior extremity of the coccyx from the internal contraction of the levatores ani. The bowels were occasionally opened by the aid of an enema, and had not since descended, but she suffered some pain in defecation.

"27th—When the enema tube was introduced this morning, some pus was discharged, and the evacuation which followed was attended with but slight inconvenience.

"March 8th.—No prolapsus attended the act of defecation.

"16th—An utero-abdominal supporter was applied, and she was permitted to walk about.

"21st.—No protrusion of either uterus or rectum, and on this day she left the hospital.

"This woman was seen more than three years after she left the hospital, and stated there was no descent either of the uterus or rectum, but she was compelled to be attentive to the state of her bowels.

"I append to these notes a letter which I have received from my colleague, Mr. Hilton, detailing his reasons for performing the operation.

"10 New Broad Street; October, 1853.

"MY DEAR LEVER,

"I certainly think the cases of lacerated perineum are worth publishing, and I have great pleasure in sending to you a statement of the reasons which induced me to adopt the operation performed in each of the cases. As far as I know, such an operation had not been done before that period, 1848, with the purpose of relieving the distress and annoyance to which these patients were exposed, but in this opinion regarding the originality of the operation I may be wrong, if so, your better information will set me right.

"When you requested my assistance to determine what had best be done in a surgical direction, remembering that the levatores ani have one firm and fixed attachment to bone near the arch of the pubes, and another at the coccyx, and that the external sphincter ani might be regarded anatomically nearly in the same light in relation to its effects upon the injury to the perineum, and bearing in mind that all muscles contract towards their more fixed point, no matter how that fixity of position may have been acquired, it occurred to me, if I could by a simple and uncomplicated operation, disengage the coccygeal attachments of the levatores ani, I might allow them to retract the anal aperture and adjacent structures in a direction towards the pubes, as it were, to bury the perineal injury deeply in the pelvis, thus enabling the lower fibres of those muscles (which blend with the muscular parietes of the vagina, rectum, and perineum, to assume the office of a sphincter to the lacerated opening, by approximating the edges of it, and drawing it upwards towards the pubic arch. In reference to the external sphincter ani, I concluded that, by taking away or separating the coccygeal fixed point of that muscle, I should necessarily change the direction of its contractile power from the coccyx towards the vagina, and thence to the pubes; this I hoped would help to occlude the lacerated opening between the vagina and rectum. Whether I had reasoned rightly or not, the results were as satisfactory, and indeed more so, than I had anticipated. It seemed to myself, that two ulterior purposes might be held in view by such an operation, the first was to ascertain how much of complete relief could be afforded by an operation which promised to be altogether free from both the danger and the severity of the ordinary operation for such cases, and secondly, should no important immediate benefit be derived, it would certainly tend to the advantage of the patient, by putting the parts into a better state (by relaxing them, and so taking off tension) for the easy and perfect accomplishment of the usual but more formidable operation of paring the edges of the lacerated wound, and maintaining them in contact for a time by sutures.

"The method of proceeding was as follows: A narrow sharp-pointed knife was introduced through the skin on one side of the point or free extremity of the coccyx, about half or three-quarters of an inch from its end; it was then

passed into the pelvis, between the concave surface of the coccyx and the rectum, special care being taken not to puncture the intestine; the cutting edge of the knife was now made to sweep over the sides and end of the coccyx, so as to separate from it the coccygeal attachments of both the sphincter and levatores ani; the knife was then withdrawn through the same small opening by which it had been introduced; scarcely any blood escaped at the wound, but a compress of lint supported by adhesive plaster was applied over it, to keep the parts quiet, and to intercept the flow of blood.

“That the operation had accomplished its intention of detaching the muscles from the coccyx, was obvious enough, by examining with the finger upon the skin, the median line between the end of the coccyx and the posterior margin of the anus, the resistance which the muscles naturally give to pressure in that position had disappeared, and the anal aperture became retracted or drawn up into the pelvis.

“During the time I had the opportunity of seeing the patients after the operations, I have no hesitation in saying they were much benefited by what had been done for them, so much so, that no further treatment was deemed necessary. How far the operation may have succeeded ultimately and persistently, I do not know.

“Yours, faithfully,
“JOHN HILTON.”

IV.

REPORT ON PHYSIOLOGY.

1. *On the presence of Cellulose in the Brain and other parts of the nervous system in man.* By RUDOLPH VIRCHOW. (*Virchow's "Archiv,"* b. vi, h. 1, p. 135)
2. *On the presence of Starch in the Brain of man.* By GEORGE BUSK, F.R.S. (*Journal of Microscopical Science,* No. VI, p. 101.)

The discovery of cellulose and starch in man is an event of no small moment, for, by demonstrating the presence of vegetable products in the highest animal organism, it does much to break down the remains of that barrier which has been erected between the animal and vegetable kingdoms by the dogmatism and prejudices of bygone ages. The interest and significance of this discovery, moreover, is greatly enhanced by M. Claude Bernard's discovery of another vegetable product—sugar—in the liver; a discovery of which we shall have to speak presently.

I After alluding to the discovery of *cellulose* in ascidians, by Carl Schmidt, in 1845, and to the more recent discovery of *paramylose*—a substance isomeric with starch—by Gottlieb, in *Euglena viridis*, M. Virchow proceeds to state that he was guided, by the resemblance existing between the structure of the umbilical cord in man and the cellulose tissue of ascidians, to suppose that he might find cellulose in this cord. In this expectation he was disappointed. He persevered, however; and he thus describes the result:—

"I was more fortunate when, a short time since, I directed my attention to the so-called *corpora amylacea* of the brain, upon the precise nature of which, contrasted with the other kinds of amyloid bodies in man, I had not previously arrived at any accurate notion. (*Wurzb. Verh.*, 1851. Bd. ii, p. 51.) It was now apparent that these bodies assumed a pale blue tinge upon the application of iodine, and upon the subsequent addition of sulphuric acid, presented the beautiful violet color which is known as belonging to *cellulose*; and which in the present instance appears the more intense from the contrast with the surrounding yellow or brown nitrogenous substance.

"I have repeated this experiment so often, and with so many precautions, that I regard the result as quite certain. Not only have I instituted comparative researches in different human bodies, and in the most various localities, but I have also noticed the action of the reagents under all possible conditions. The experiment is best made in the mode adopted by Mulder and Harting, with vegetable cellulose (*vide Moleschott, Physiologie des Stoffwechsels*, p. 103), viz. by causing the action of diluted sulphuric acid to follow that of a watery solution of iodine. The iodine solution should not be too strong, for the observation may then be impeded by its precipitation; and, on the other hand, care must be taken that the iodine exerts due action upon the substance. Owing to the volatility of the iodine, and its great affinity for animal substances, its action is usually very unequal, so that the border of the object and not the centre may be penetrated by it, or, perhaps, of spots in close contiguity, one will contain iodine and the other not. It is, consequently, always advisable to repeat the application of the iodine several times, but to avoid the addition of too much. Upon the subsequent addition of sulphuric acid, if the action have been too powerful, the result is a perfectly opaque red-brown color. The most certain results are obtained if the sulphuric acid be allowed to act very slowly. In fact, I have procured the most beautiful objects in allowing a preparation covered with the glass to remain undisturbed with a drop of sulphuric acid in contact with the edge of the covering-glass for from twelve to twenty-four hours. Under these circumstances, the

most beautiful light violet-blue was occasionally presented. Lastly, I would just intimate that accidental mixtures of starch or cellulose may readily happen, seeing that very light fibres or minute particles from the cloths with which the object and covering-glasses have been cleaned, may very easily be left upon them, which would afterwards exhibit the same reaction as the above.

" Every precaution having been taken, the following results will be obtained :—

" 1. The *corpora amylacea* (Purkinje) are chemically different from the concentric-spherical corpuscles of which the brain-sand is composed, and with which they have hitherto usually been confounded. The organic matrix of the brain-sand granules is obviously nitrogenous—it is colored of a deep yellow by iodine and sulphuric acid. This is true not only of the fabulous matter in the pineal gland and choroid plexuses, but also of that of the Pacchionian granulations and of the *dura mater*, as well as of the dentate plates in the spinal arachnoid. In all these parts I have, in general, nowhere obtained the blue reaction, except in a few spots in the pineal gland. It would, therefore, for the future, be convenient to restrict the name of '*corpora amylacea*' to the bodies containing cellulose.

" 2. These bodies exist, so far as I have at present found, only in the substance of the *ependyma ventriculorum* and its prolongations. In this I include especially the lining of the cerebral ventricles and the transparent substance in the spinal cord described by Kolliker, as the *substantia grisea centralis* (*Mikrosk. Anat.*, Bd. ii. 1, p. 413). With respect to the cerebral ventricles, I have already repeatedly stated, that I find them to be lined throughout with a membrane belonging to the connective tissue class, upon which rests an epithelium. This membrane contains very fine cellular elements, and a matrix sometimes of more dense, sometimes of softer consistence, and is continued on the internal aspect without any special boundary between the nervous elements. In the deeper layers of this membrane, and in immediate contiguity with the nerve fibres, the cellulose corpuscles are found most abundantly, and they are also especially numerous where the *ependyma* is very thick. They are consequently very abundant on the *fornix*, *septum*, *lucidum*, and in the *stria cornea* in the fourth ventricle. In the spinal cord, the substance corresponding to the *ependyma* lies in the middle, in the gray substance, in the situation where the spinal canal exists in the fetus. It there forms evidently a rudiment of the obliterated canal, such as is presented in the obliteration of the posterior cornu of the lateral ventricle, which is so frequently met with. In a transverse section of the cord, it is easily recognized as a gelatinous, somewhat resistant substance, which may be readily isolated. Its cells are much larger and more perfect than those of the cerebral *ependyma*. This *ependyma spinale* forms a continuous gelatinous filament, which extends to the *filum terminale*, and might, therefore, perhaps, be most suitably described as the *central ependymal filament*. In it the cellulose granules are also found, though, as it would seem, more abundantly in the upper than in the lower portion. In other situations I have sought for these bodies in vain, and in particular I have been unable to find them in the external cortical layer of the cerebrum, or anywhere in the interior of the cerebral substance.

" 3. Since, from the experiment of Cl. Bernard, who produced saccharine urine by wounding the floor of the fourth ventricle in the rabbit, there appeared to be reason to conclude that the existence of cellulose was connected with that phenomenon. I sought for it also in rabbits, but in vain: I found in that situation, both in the fourth, and the third, and in the lateral ventricles, a very beautiful tessellated *epithelium* with very long vibratile cilia, but no cellulose.

" 4. The cellulose granules, therefore, appear to be everywhere connected with the existence of the *ependyma substance* of a certain thickness, and might perhaps be regarded as a constituent of it. They occur of excessively minute size, so that the nuclei of the *ependyma* scarcely correspond with them. Can they be formed out of the latter? The larger they are, the more distinctly laminated do they appear. But there is never any indication in them of a nitrogenous admixture, recognizable by a yellow color. The centre only is usually of a darker blue, and consequently perhaps more dense than the cortical laminæ.

" 5. As to an introduction of these bodies from without, such a supposition is the less probable, because a similar substance is nowhere else known. We are acquainted with a series of varieties of vegetable cellulose, but the substance

now in question appears to be distinguished above all by its slight power of resistance to reagents, seeing that concentrated acids and alkalis attack it more powerfully than is usually the case with the cellulose of plants.

"6. In the child I have as yet sought for it in vain, so that, like the 'brain-sand,' it appears to arise in a later state of development, and probably may have a certain pathological import.

"Since writing the above, Professor Virchow has repeated and confirmed his observations, and ascertained in addition that similar bodies also occur in the higher nerves of sense. He found them most abundantly in the soft gray interstitial substance of the olfactory nerve, less frequently in the acoustic, although the observations of Meissner (*Zeitsch. f. rat. Med.*, N. F., Bd. iii, pp. 358, 363) would indicate a proportionately great disposition to their formation in that situation. Rokitansky appears to have seen them in the optic nerve, and from an oral communication the author has learned that Kolliker has found them in the retina.

"Having already stated that the *ependyma* is continued without special limitation among the nervous elements, the author goes on to observe that it is now apparent that there is a continuous extension of the same substance in the interior of the higher nerves of sense. From a series of pathological observations, he concludes that a soft matrix referrible mainly to connective-tissue substance everywhere pervades and connects the nervous elements in the centres, and that the *ependyma* is only a free superficial expansion of it over the nervous elements. The opinion, that the epithelium of the cerebral ventricles rests immediately upon the nervous elements, appears to have arisen from a confusion of this interstitial substance with the true nerve-substance.

"The isolation of the *corpora amylacea* in larger quantity, in order that they should be subjected to chemical analysis, the author has not yet succeeded in effecting. Nevertheless it seems impossible to entertain any doubt as to their cellulose nature. No other substance is known which affords the same reaction; and although the author has examined the most various animal tissues, and has accurately investigated, particularly, the concentric corpuscles occurring elsewhere, as in the *thymus* in tumors, &c., nothing of the same kind has presented itself."

II. Since this time, Mr. Busk has examined the brains of one or two individuals, with a view to verifying the observations of M. Virchow, and his examination has led to the further discovery of starch. Admitting that his observations are as yet too scanty to justify the expression of any settled opinion, Mr. Busk writes:—

"The first case I examined was that of a young man, who died of the consecutive fever of cholera, after an illness of five or six days, during the whole of which period the renal secretion was completely suppressed. What I noticed in this case was:

"1. The enormous abundance of the *corpora amylacea* in certain situations, as the *ependyma ventriculorum*, particularly on the *septum lucidum*, and more especially also on the choroid plexuses, upon gently scraping the surface of which a fluid was obtained containing these bodies in the most surprising quantity.

"2. That they existed in immense abundance in the olfactory bulbs, and in the superficial parts of the brain, both cortical and medullary, contiguous to the tract of the olfactory nerves. But scarcely any part of the *cerebrum* and *cerebellum* could be examined, at all events towards the surface, without meeting with some or more; and they occurred abundantly in the very middle of the *cerebellum*. Their distribution, however, was very irregular, inasmuch as they abounded in some spots, and were nearly, if not altogether wanting in others. I could find none in the *corpora striata*, where they seemed to be replaced by 'brain-sand,' of which more will be said afterwards.

"3. The cerebral substance in immediate contiguity with the *corpora amylacea* appeared quite natural.

"4. The corpuscles were starch, and not cellulose, and possessed all the structural, chemical, and optical properties of starch, as it occurs in plants, as the following few details will show:—

"They were of all sizes, from less than a blood-disk up to 1-500th inch or more

—generally more or less ovate, but many irregular in outline, and apparently flattened as all the larger kinds of starch I believe are. Many of the larger ones showed the appearance which, in starch, has been erroneously described as indicative of a laminated structure; whilst in others this appearance under any mode of illumination, did not exist. The point that would correspond with the so-called *nucleus* of a starch-grain was, unlike that of most kinds of starch, central, and consequently the laminated marking was concentric to the grain, which is rarely the case with the starch of plants. This apparent lamination depends, as I believe, upon the same circumstances as in other starch (*v. Trans. Micr. Soc. Quart. Journ.*, vol. i, p. 58), that is to say, upon the corrugation of a thin *sacculus*. That this was the case I satisfied myself by the use of sulphuric acid and of Schultz's solution (chloride of zinc and iodine), in the mode described in my paper above quoted. By these means, but more readily and conveniently by far by the latter, the *corpora amylacea* could be seen to unfold into empty, flaccid, thin-walled, blue sacculi, six to eight times larger than the original grain. Their structure thus appearing to be identical with that of starch, the identity of their chemical composition was rendered evident with equal facility. Simple watery solution of iodine colored them deep blue, which ultimately became perfectly black and opaque. They were soluble after swelling and expanding in strong sulphuric acid, and by heat; and moreover they acted upon polarized light in the same way as starch does. Some of the smaller grains exhibited a distinct and sharply-defined black cross, of which the lines crossed at angles of 45° in the middle of the grain, but in the majority, there was only a single dark line in the long diameter of the grain, and which seemed always to correspond with an irregular fissure of *hilus*, as it might be termed, in the same direction, which was presented in a great many of the grains, and seemed to be the indication of a partial unrolling of them, as in the starch of the horse-chestnut. This longitudinal fissure was not unfrequently crossed by a shorter one at right angles. When the covering-glass was closely pressed, the grains were easily crushed, breaking up in radiating cracks around the margin; and sometimes, when thus compressed, a concentric annulation would become evident, which was before inapparent.

"In the *corpora striata*, as I have mentioned above, I could find few or no starch-grains, but here an appearance presented itself which seems to be connected with their formation. Many particles of sabulous matter or crystalline corpuscles of the ordinary 'brain-sand' were met with, all of which, instead of lying like the starch-grains, in the midst of unaltered nerve substance, were lodged in irregular masses of what appeared a fibrinous or immature connective-tissue-substance, and in this instance, upon the addition of iodine, each mass of crystals was found to be immediately surrounded by an irregular thickness of a transparent matter, which was turned not blue, but a light purplish-pink by that reagent—a substance in fact closely resembling in that respect the very early condition of the cellulose wall; for instance, in *Hydrodictyon*,—an immature form, as it may be termed, of cellulose.

"In the second case, that of an old man—dead of chronic dysentery, and who died comatose—I found the ventricles distended with about three ounces of clear fluid. The surface of the *ependyma* throughout all the continuous cavities, was studded like shagreen with minute transparent granulations, which, on microscopic examination appeared finely granular and homogenous, or sometimes faintly fibrillated. In this case there were, I think, no *corpora amylacea* in the *ependyma* (at least I found none), nor in the central substance of the brain; a few were met with in the peripheral portions, especially on the summits of the hemispheres, and still more in the much-developed Pacchionian granulations, and there commingled with other concentrically-laminated bodies, which formed botryoidal masses, imbedded in stroma of immature connective tissue; these bodies, which might, to distinguish them, be termed the 'chalcedonic corpuscles,' were rendered yellow by iodine. In this case also, I did not notice the quasi-cellulose deposit around the particles of 'brain-sand,' but in several instances I saw minute amylaceous particles (colored blue by iodine), contained in cells which they only partially occupied."

"NOTE.—In the *Comptes Rendus*, No. 23 (December 2, 1853), are some further observations on the 'Animal Substances analogous to Vegetable Cellulose,'

by R. Virchow, in which he announces the discovery of corpuscles presenting the same reaction as the *corpora amylacea* of the brain, in the Malpighian corpuscles of diseased human spleens—in the condition termed 'waxy spleen' (Wachsmilz)."

Effect of Chloroform upon the blood of Leucocythæmia. By M. DE CHAUMONT. (*Edinburgh Monthly Journal*, May, 1853.)

In a paper on the effects of chloroform on the blood, which was read before the Edinburgh Physiological Society, M. de Chaumont states that "when the blood of leucocythæmia is acted upon, the red globules dissolve, and the white present the reaction, not of the ordinary white globules of the blood, but of pus." Now, this statement is of considerable importance in connection with the pathology of leucocythæmia; for, if it be substantiated, it amounts to a proof of the correctness of the view we put forth when reviewing Dr. Bennett's work on "*Leucocythæmia*" (vol. xvi)—namely, that this affection is nothing more than a new form of purulent contamination of the blood.

Experimental researches applied to Physiology and Pathology. By E. BROWN-SÉQUARD, M.D., Paris. (*Philadelphia Medical Examiner*, Aug 1853.)

The following facts are full of significance in connection with the theory of muscular contraction. In the opinion of M. Brown-Séquard—an opinion which is entitled to all possible respect—they support the idea that carbonic acid is a stimulant of muscular contraction, and supporting this idea, they lead to a theory of the rhythm of the heart; in our opinion, they rather seemed to afford additional proof of the independence of muscular contraction upon any stimulus (for we cannot readily admit carbonic acid into the category of stimulants), according to the views which were originally put forth in 1850, in a work called *The Philosophy of Vital Motion*, and which are noticed in abstract on a former page of the present volume. Under any circumstances, however, the facts are of extreme interest, and the theory is as ingenious as the facts are interesting; and without further comment, therefore, we state some of the principal facts, and the theory of the heart's action which is founded upon them.

"My friend Dr. Martin Magron and myself have discovered that after the section of one of the facial nerves, on a rabbit, the face becomes very quickly deviated, not on the healthy side, as it is known to be in man, but, strange to say, on the paralyzed side. The deviation, very slight at first, increases gradually during one or two weeks, and then it is so considerable that the middle of the lips is at the distance of four, five, or six lines from its natural situation. There is an evident state of contraction in all the paralyzed muscles. When the animal is excited, or when its respiration is somewhat disturbed or prevented, the paralytic muscles tremble, and sometimes they have rhythmical contractions and relaxations.

"The contractions of these muscles may be so considerable that the bones themselves, and secondarily, the teeth, may be deformed. In one case, on a rabbit which I had kept living twenty-one months after the extirpation of one of the facial nerves, not only the superior and inferior jaws were by far less developed on the paralyzed side than on the other, but the anterior part of the superior maxillary bone was deviated towards the paralyzed side, so that the middle line of the roof of the mouth was curved and presented a great concavity on the paralyzed side and a corresponding convexity on the other.

"When the two facial nerves have been divided, there is no deviation, but there is an evident state of contraction in all the paralyzed muscles, particularly around the lips.*

"When one of the facial nerves is divided on a dog, on a cat, or on a Guinea pig, there is generally no deviation on either side. But very frequently there are convulsive movements, and sometimes rhythmical contractions, in the para-

* Dr. Martin Magron and myself have found that death occurs from inanition in all the species of mammals on which we have divided the two facial nerves. After the operation they cannot swallow—we do not know why.

lyzed side of the face. One of these two kinds of movements always exists in young cats. They are increased, or produced when they do not exist, in dogs and Guinea pigs, almost every time we prevent the animal from breathing freely. Once, on a very vigorous Guinea pig, upon which one of the facial nerves had been torn away, I saw alternate contractions and relaxations taking place, without a relapse, for eight or ten days after the operation in the paralyzed muscles. After that time, these tremblings appeared only when the circulation and the respiration were rendered very active, or when the respiration was prevented or diminished. In the case of an impaired respiration, the strength and frequency of these movements were in proportion to the degree of asphyxia. During many months, the same phenomena existed in this animal.

"I ought to say that in all the experiments above related, the nerve could not have any share in the movements, because, the fifth day after the division, or after the extirpation of a portion of it, the peripheric part had entirely lost its vital property.

"In man, as Dugès justly remarks, as long as there is no attempt at movement, voluntary or emotional, the face remains without any deviation, in cases of facial hemiplegia, which have not lasted a long time."

"In pigeons, after the destruction of all the lumbar part of the spinal cord, the two posterior limbs are completely paralyzed. The muscles then are soft, and the different parts of the limbs do not resist at all, when we try to put them in flexion or in extension. But after a few days the paralyzed muscles become harder, and after a few weeks there is an evident state of contraction in them. The limb is generally kept in a state of extension, and deviated on one side or the other. The deviation becomes considerable after some months.

"Very likely it is owing to the same cause that club-foot and other deviations are produced in embryos, after a destruction or an absence of development of the spinal cord."

"If we open the abdomen of a living animal, in avoiding to excite mechanically the bowels, and in allowing the animal to breathe freely, we may for a long time see no other movement in the bowels, except, sometimes, slight regular and natural peristaltic motions, depending on digestion, and limited to some small parts of the bowels. The animal must be kept on his back, and we must avoid touching the bowels, because a slight contact is sufficient to produce movement. Now, if we prevent the animal from breathing, we see, after ten, fifteen, or twenty seconds, very violent, sudden, and rapid contractions taking place in all parts of the intestine, from the stomach to the rectum, but much more in the small intestine than elsewhere. These movements are quite different from the digestive peristaltic movements. If the animal is allowed to breathe again, and freely, the movements diminish gradually, and disappear almost entirely after a few minutes. Then, if we prevent it again to breathe, we see the movements produced again. This experiment may be repeated many times, with the same result, on the same animal. * * * Again "If we put a tie around the trachea of a living animal, immediately after expiration, we may see and feel violent movements taking place in the bowels, although the abdomen is not opened. It is in consequence of such movements that there is an expulsion of fecal matters, after death, in man. The urine may be also expelled in these cases, in man and in animals, and this expulsion takes place because the bladder contracts, and not, as it is generally admitted, because the *sphincter vesicae* becomes relaxed."

"If black blood is injected in the arteries of the small intestine when its irritability is much diminished, movements are almost immediately produced, but they do not last long. On the contrary, if red blood is injected, movements do not appear immediately, and they are very strong and last long."

"John Reid has discovered that when any hemodynamometer is put in the femoral artery of a dog, the mercury rises in the instrument if the animal is asphyxiated, and about one minute after the respiration has been stopped. The

same result has been obtained in twenty experiments. It seems to me that this fact proves that the contractions of the heart become more energetic during asphyxia. John Reid attributes the result he has obtained to some difficulty that black blood seems to have in passing through the capillaries of the different parts of the body. I do not deny that there is such a difficulty; but I think that the great reason of the ascension of mercury in the hemodynamometer is, the increase in the force of the heart. A simple experiment proves that I am right. I adapt the hemodynamometer to the aorta in the abdominal cavity, and then I open quickly the chest, and I put a ligature to the brachial and carotid arteries. About three-quarters of a minute after opening the chest, and about half a minute after the ligature has been put on the arteries of the head and arms, the mercury rises notably in the instrument; sometimes the elevation is as considerable as two inches. It results from this experiment, that the heart beats more strongly in asphyxia about one minute after its beginning."

Arguing from these and similar facts, that carbonic acid is a stimulant of muscular contraction, M. Brown Séquard thus accounts for the rhythm of the heart.

"I believe it is easy to explain why the agent of excitation of the heart* produces rhythmical contractions. I will suppose first, that the action is permanent. A part of the heart, ventricles, or auricles, being dilated, receives an excitation in all its fibres simultaneously, and a contraction is produced. But, according to the well-known law of Schwann the exciting cause which is able to give the impulse when the muscular fibres are long, is not able to maintain the contraction when the fibres have been shortened. Then, on account of this insufficiency of power of the cause of the contraction, a dilatation ensues. We may present the fact in other words, and say that the resistance to the contraction originating from the displacement of the constitutive matter of the contractile tissues, increases in proportion to the shortening of the fibres; and that after the fibres have contracted under the impulse of the exciting cause, although this cause continues to act, a dilatation is produced by the force belonging to that resistance, which is nothing but elasticity. If the cause of the contraction of the heart was a considerable one, then we should see a permanent contraction; and it is so when we apply galvanism—the elasticity, then, is not powerful enough to produce dilatation. On the contrary, with a weak exciting cause, like carbonic acid, the result ought to be different. When that cause has more power, as in asphyxia, the shortening of the fibres takes place quicker, and is more considerable; and even then it is not sufficient to maintain contraction, the tendency to dilatation being also increased.

"I ought to say, that the excitant cause of the contractions is not always at the same degree of power. The small bloodvessels and the capillaries being compressed during the muscular contractions, there is a diminution of excitation during that time. This should be sufficient to explain the alternate contractions and dilatations. But such a diminution in the calibre ought to be very little, if even it exists in certain organs, (the heart when composed of cells, for instance)."

In answer to the question, how is it that the heart is the only muscle containing striated fibres which presents normally rhythmical movements? Mr. Brown Séquard proceeds to say:—

"The answer to this question appears to be very simple. The intensity of the stimuli, the degree of irritability, and the resistance which a muscle has to overcome when it contracts, are three elements which we ought not to lose sight of when we examine the difference of contractions between two muscles. Suppose the heart possessing the same degree of irritability as another muscle. If the stimulus is the same, and the resistance the same also, for the heart and for the other muscle, there will be the same effects. But if the stimulus is more considerable in the heart than in the other muscle, and if the resistance to be overcome is less for the heart, then with the same degree of irritability in both parts and even with less irritability in the heart than in the other muscle, we will see a movement in the heart, and not in that other muscle. Now a simple

* What I will say here for the heart, might be said for all the contractile tissues, presenting apparently spontaneous rhythmical contractions, as the cilia, for instance.

examination of the vessels of the heart, proves that they contain more blood, and consequently more stimulus, than the other striated muscles. Besides, as the heart is not inserted into heavy bones to be moved, it has less resistance to overcome when it has not to circulate the blood, as after death, or when it is out of the chest, than the muscles of animal life. Some muscles in the face and the diaphragm, being almost without an external resistance, when their contractions do not go so far, it results that they are moved much more easily after death, than the muscles of the limbs. In consequence of these views, I believe that, although there is in the bloodvessels of all the muscles of the body a principle which is an exciting cause of contractions, there are no contractions produced, because the quantity of that principle is not sufficient, or because the resistance to contractions in many muscles is greater than in the heart."

Notes on the design of certain portions of the Cranium, being a selection from the lectures on Anatomy, delivered by John Hilton, F.R.S. Collected and compiled for publication by F. W. PAVEY, M.B. London. (Guy's Hospital Reports, vol. viii, part ii, p. 357.)

These notes shed very much light upon the means by which the brain is shielded from the dangers arising from shock, and from the compression of vascular engorgement.

In preserving the brain from shock, the isolation of the cranial bones in the child, the ridges and eminences within the skull of the adult, and the cerebro-spinal fluid are found to play an important part. In the infant, the vibrations resulting from a fall upon the head are usually lost in the cartilage surrounding the bone receiving the injury—which bone, from its prominence, is usually the frontal or the parietal. In the adult, on the contrary, the vibrations originating in this way are not confined to the bone receiving the shock, but they travel along the ridges or elevations constituting the thicker and more dense parts of the skull (because these ridges and elevations are better conductors of vibrations than the surrounding bones), and thus travelling, they are conducted partly to the anterior and posterior clinoid processes, and partly to the petrosal portion of the temporal bone. The vibrations that are conducted to the clinoid processes are transmitted to the cerebro-spinal fluid upon which the brain rests, and are lost in that fluid, those that are conducted to the petrosal bone are transmitted to the soft membranous tissue intervening between this bone and the sphenoid, and to the incumbent cerebro-spinal fluid, and they are lost in the membrane and fluid. The cerebro-spinal fluid is, therefore, not merely a water-bed, upon which the brain is delicately poised, but it is the grand means of intercepting those vibrations, which would otherwise be transmitted to the brain, and which, if transmitted, would occasion serious mischief. In this way, the clinoid processes, and other inequalities of the base of the skull, which seemed so very likely to injure so delicate an organ as the brain, are found to hold a relation to this cerebro-spinal fluid which is best calculated to obviate these injuries, and the ridges and elevations, which had no assignable function, are found to be admirably arranged for causing the vibrations of the skull to converge to the clinoid processes, or to the petrosal portion of the temporal bone, where they are disposed of in the way mentioned. These ridges are not wanted in the head of the infant, because the vibrations resulting from a blow on the head do not extend beyond the limits of the isolated bone upon which the violence is expended, and therefore they do not exist. The direction in which the vibrations travel to their several destinations, is illustrated by several diagrams, and by these practical remarks.

"That the statements I have just made concerning the conduction of vibrations from the walls of the cranium along certain definite channels to points of bone at the centre, where they terminate, without injury to the cerebral and surrounding structures, I say, that what I have just stated on this point is not merely hypothetical, but really does take place in the living subject; is strongly supported by the phenomena that are sometimes observed in cases of fracture of the base of the cranium. For example, I have known it to happen that a person having been exposed to external violence, which has led to the fracture of the base of the skull, and feeling pretty well a few days after the accident, has

expressed a desire to get up and leave his sick chamber, which his medical attendant has been indiscreet enough to allow him to do, or which he has done of his own accord, without the knowledge or consent of his attendant. After moving and walking about, however, for a short time, he has soon complained of headache, has been attacked with sickness and vomiting, afterwards has had confusion of his ideas, and, finally, has fallen into a state of unconsciousness, in which after three or four days he has expired. The explanation of these symptoms I believe to consist in the interference which the fracture has produced, or the interruption it has occasioned to the natural course and termination of the cranial vibrations. During the time that the patient remained quiet and in bed, there were no vibrations to disturb the injured parts, but as soon as he began to move and walk about, the vibrations which were thus occasioned, instead of being conducted onwards to their natural points of termination at the centre of the base, were interrupted in their course at the line of fracture, thus setting up irritation, with perhaps slight laceration of the surrounding soft structures, and leading to those serious consequences which ended in a fatal termination of the case."

Much additional light is also thrown upon the means by which the dangers arising from the compression of venous engorgement are obviated. A principal means is the compensating escape of the cerebro-spinal fluid into the spinal canal, an escape which is demonstrated by the following experiment —

"At present," says Mr. Hilton, "I have only *assumed* that, under the augmentation of the normal amount of blood within the cranium, an escape of cerebro-spinal fluid takes place into the vertebral canal, and that this is here accommodated by an equivalent displacement of blood from the spinal flexus of veins. But it is not difficult to show, by actual experiment, the truth of this statement; and I do not know that any more conclusive evidence can be required than is furnished by these two simple experiments, which I performed now many years ago, and which I have been since accustomed annually to mention in my anatomical course of lectures. In the first experiment I opened the abdomen of a subject on the *post-mortem* table, and clearing aside the viscera, removed the bodies of a couple of the lumbar vertebræ, so as to expose the dura mater containing cerebro-spinal fluid. I then forced blood into the interior of the head, by making pressure from below upwards along the course of the internal jugular veins; and as I did this the dura mater in the lumbar region was seen to rise from the afflux of cerebro-spinal fluid into the spinal canal. In the other experiment I removed the whole of the viscera from the chest and abdomen of the same subject without disturbing the head. The blood in the divided branches of the azygos, lumbar, and intercostal veins, formed, as it were, cup-shaped depressions; but immediately that I applied pressure with the fingers upon the dura mater exposed in the lumbar region, the blood rose and finally flowed out of the above-mentioned venous branches. Just in proportion, in fact, as pressure was made on the dura mater, so was blood forced out from the azygos, lumbar, and intercostal veins."

It is argued that the flow of blood from the veins will be facilitated by the vicinity of the several sinuses to the ridges and elevations of the skull along which the vibrations already mentioned are transmitted, and by the consequent transmission of these vibrations to the venous current. It is argued that the position of the carotid in the cavernous sinus may be intended to bring about the same result by the communication of its throbbing to the sinus —

"The position of the carotid artery within the sinus, is analogous, in a functional point of view, to what I have stated concerning the arteries of the extremities and their associated *venæ comites*. But, it is even placed under a still more favorable condition than these for the production of a similar effect, for the walls of the artery being immersed or bathed in the pool or lake of blood constituting the sinus, each pulsation of the arterial tube communicates a considerable impulse to the surrounding fluid, which escapes from its enclosed cavity or sinus in any direction in which it meets with the least resistance, there being no valves in any of the venous channels situated in the interior of the cavity of the cranium. The pulsations of the carotid arteries in their passage through the cavernous sinuses, thus supply the absence of that accessory influence which the venous

circulation in other parts of the body receives from the muscular system. And the momentum derived from such a continued series of impulses is fully sufficient not only to prevent the stagnation of blood in the cranial sinuses, but to urge it quickly onwards towards the right side of the heart, in the direction which offers the least obstruction to its progress."

Mr. Hilton also points out the interesting fact, that in children, where attacks of cerebral vascular engorgements are more common than in adults, owing, among other reasons, to the greater frequency of fits of passion and crying, there is a special provision against the dangers of this engorgement, in the greater number of outlets through which the blood can escape from the skull.

1. *Nouvelle fonction de Foie, considérée comme organe producteur de matière Sucrée chez l'Homme et les Animaux.* Par M. CLAUDE BERNARD; Paris, 1853, pp. 92.
2. *The Liver considered as the source of Saccharine Matter in Man and the lower Animals.* By M. BERNARD.

M. Bernard's discovery that the liver has the power of forming sugar is a fact of very great moment. It is of great moment as showing the transformation in an animal body of an animal substance into a vegetable substance. It is of greater moment as giving a more definite conception of the functions discharged by the liver, and of the changes which lead to diabetes.

The main facts upon which this discovery rests may be stated in a few words, though in this way we can hope to give but a very inadequate idea of the labor and skill involved in the inquiry.

A dog was killed while digesting a full meal of mutton and chicken-bones which it had taken seven hours previously; and on examination, sugar was found in blood obtained from the right side of the heart, but not a trace in the alimentary canal or in the urine. Another dog was killed, after having been kept fasting for two days, and sugar was still found in the blood from the right side of the heart, but not in the alimentary canal or in the urine.

A fine, healthy dog was killed while digesting actively a full meal of mutton and bones, which had been taken seven hours previously, and on examination, a large quantity of sugar was found in the blood from the portal vein, and a less quantity in the blood from the right side of the heart, but not a trace in the lacteals, in the alimentary canal, or in the bladder. Another dog was killed after having been kept fasting for three days, and in this case sugar was found in the blood from the portal vein, and from the right side of the heart, though in less quantity than in the last experiment, but none in the chyle, in the contents of the alimentary canal, or in the urine.

These experiments were performed repeatedly, and always with the same results.

Reflecting upon these experiments, and considering that the liver was more likely to be the source of sugar than the portal vein, and that the portal vein might possibly become charged with sugar by the regurgitation of blood from the liver, M. Bernard next set himself to determine this point.

A dog was killed by dividing its medulla oblongata while digestion was in active progress, and a ligature was placed round the portal vein close to the liver, before the blood had had time to regurgitate from the liver into the portal vein and its tributaries. (In M. Bernard's opinion, a main cause of the onward movement of the blood in the portal veins is the pressure of the abdominal parietes, and hence great dispatch and dexterity were required to prevent this regurgitation on opening the abdominal cavity.) In this case no sugar was found in the blood of the portal vein, or in the chyle, or in the contents of the alimentary canal, but it was obtained in abundance from the blood of the liver.

On further inquiry it was found that sugar might be obtained in abundance from the tissue of the liver, but not from the tissue of the pancreas, or spleen, or mesenteric glands.

It having been suggested that the liver might merely have the power of storing up the saccharine elements of the food, and of giving these up by small instalments, M. Bernard performed the following experiment. A full sized dog,

which had been kept fasting for eight days, was fed on animal food for eleven days, and then killed. The result was still the same; for on examination, abundance of sugar was found, both in the liver and in the right side of the heart.

These experiments were repeated many times, and always with the same result. Sugar was also found, not only in mammals generally, but in birds, in cartilaginous and osseous fishes, in molluscs, and in crustaceans—most abundantly in actively-breathing animals, such as mammals and birds. It was not found, however, in the human liver, except after sudden death, from which circumstance, M. Bernard argues that the formation of sugar is arrested during mortal exhaustion—a conclusion which is borne out by the history of diabetes; for in this complaint the sugar disappears from the urine in the last days of life.

On further carrying out these inquiries, no sugar was found in the left side of the heart, and in the arteries, and hence the conclusion that it had been utilized in some way in the process of respiration—becoming transformed into lactic acid as an intermediate part of this process.

Some additional facts transpire in the course of the inquiry. The formation of sugar in the liver is arrested by the division of the pneumogastric nerves; and diabetes is induced by slight irritation of the olivary bodies, and of some other parts of the nervous centres—facts which have yet to receive a satisfactory explanation.

The sugar which is detected in these experiments is perfectly analogous to diabetic sugar, and M. Bernard calls it by this name. It was detected by Barreswil's test, great care being taken to free the fluid to be tested from its albuminous principles.

The bearing of these facts upon the pathology of diabetes is all important, but as yet the precise characters of these bearings have not been determined. In our opinion the facts appear to point to deficiency of respiratory action rather than to excess of sugar, as the grand cause of diabetes; for if sugar be formed in the liver, and not disposed of in the lungs, it will pass into the arterial blood, and so out of the body by the kidneys. And other facts appear to show that sugar does thus pass out of the body when the respiration is defective. Thus, in the experiments which he instituted at the Salpêtrière, M. Dechambre found sugar to be habitually present in the urine of persons whose respiration had become retarded by the effects of old age. (*Vide Abstract*, xvi.) Thus (an observation which we have confirmed in several instances) MM. Michea and Regnoso found sugar temporarily present in the urine of epileptics, after the asphyxia of the fit. (*Vide Abstract*, xvii.) Upon this view the object of the treatment should be rather to increase the respiratory activity than to endeavor to put a stop to the formation of sugar by placing an embargo upon the diet, and for this purpose duly-regulated gymnastic exercises, and perhaps the inhalation of oxygen or ozone, as was suggested by MM. Cassaroti and Robin, for the treatment of albuminuria (*vide Abstract*, xvii.), may prove to be an indispensable part of the rational treatment of diabetes.

Objections to the prevailing theories of Procreation. By D. M. HIRSCH, Jun., of Bingen. (*Schmidt's Jahrbucher*, 1853; No. 2, pp. 153.)

Dr. Hirsch concludes that menstruation has no analogy to the heat of beasts, because fertilization can take place in the human female at any time, and not at this time only, as must be the case if menstruation be analogous to the heat of beasts. He thinks that fertilization may take place at other times than at the menstrual period, partly from the analogy of man, whose power of fertilizing is not limited to any particular time: partly from the fecundity of Jewesses, who are prevented by their customs from having intercourse with their husbands for five days before, and seven days after the first appearance of the menses; and partly from the case of a female, who fell under his notice, and who was fecundated 22 days after normal menstruation. It appears, however, that all these objections are overruled by the arguments of Dr. Duncan (already stated), which arguments go to show that the semen may retain its vivifying power for

a considerable time after the conjunction of the sexes, and that, consequently, the act of conception may be considerably removed from the time of conjunction.

1. *A fact bearing on the Development of the Entozoa.* By M. HERBZT.
(*Annales des Sciences Naturelles*, xvii. pp. 63.)

2. *Another fact of the same kind.* By M. LEUCKART. (*Gazette des Hôpitaux*, Feb. 23.)

These two facts form an interesting contribution to the history of this difficult subject.

M. Herbzt fed three puppies, about six weeks old, with the flesh of a badger, containing numerous trichinæ, and found some time afterwards that their flesh was full of the same parasite.

M. Leuckart's fact is even still more conclusive. He fed several white mice for some time upon ordinary food, and ascertained that they were altogether free from any intestinal parasite. He then separated them into two companies, and mingled eggs, taken from the *tania crassicollis*, with the food of one of these companies; and in a short time he found that the mice which had taken the eggs were infested with the cænuris, while the others, which had not taken the eggs, continued as free from any parasites as they were before.

LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE "HALF-YEARLY ABSTRACT."

BRITISH.

Annals of Anatomy and Physiology.
Association Medical Journal.
British and Foreign Medico-Chirurgical Review.
Dublin Quarterly Journal of the Medical Sciences.
Dublin Medical Press.
Dublin Hospital Gazette.
Edinburgh Medical and Surgical Journal.
Edinburgh New Philosophical Journal.
Edinburgh Monthly Journal.
Glasgow Medical Journal.
Indian Annals of Medical Science.
Journal of Psychological Medicine.
The Lancet.
London Medical Examiner.
Medical Circular.
Medical Times and Gazette.
Microscopical Journal.
Pharmaceutical Journal.
Statistical Journal.

AMERICAN.

American Journal of the Medical Sciences.
Canada Medical Journal.
New York Journal of Medicine.
North-Western Medical Journal.
Philadelphia Medical Examiner.
Montreal Monthly Journal.

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THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING
A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED IN THE PRECEDING SIX MONTHS.

TOGETHER WITH
A SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES DURING THE SAME PERIOD.

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Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

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ABSTRACT OF THE MEDICAL SCIENCES,

ſc. ſc.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A) HYGIENE.

ART. 1.—*How to prevent "the Lucifer-Match-Maker's Disease."*
By Dr. FARADAY, D.C.L.

(*Faraday's Lectures on the Non-Metallic Elements.* By Dr. Scoffern. London, 1853. 12mo.)

IN these lectures, Dr. Faraday mentions a fact which promises to make the manufacture of lucifer matches a perfectly harmless occupation. It is well known that many elementary bodies may be *allotropic*—may exist, that is to say, in various forms, and be endowed with very different properties. Oxygen, in the form of *azone*, or oxygen in the state in which it is during combustion, is very much more active than the oxygen which is ordinarily met with in the atmosphere. Chlorine acquires more intense affinities when it has been tithonized by exposure to the sun's rays or to spongy platinum. Sulphur may be in transparent or opaque crystals, or it may be a deep brown elastic substance, like india rubber. Carbon may be in the form of charcoal, plumbago, or diamond. Phosphorus is also *allotropic*—colorless and transparent, white and opaque, black and opaque, and dark red. Now the dark red form, which has been recently obtained by M. Schrötter, is far less *active* than the ordinary colorless and transparent form; but it is sufficiently active for all practical purposes. It does not ignite without a fair amount of friction, and it may be even carried in the pocket with impunity; and more than this, it is not poisonous. In a word, this allotropic phosphorus answers all the purposes to which ordinary phosphorus is applied, and there is great reason to hope that when this fact is recognized, the lucifer-match-maker's disease will be at an end.

ART. 2.—*Want of Phosphate of Lime an important cause of defective Nutrition.*
By M. MOURIES.

(*Bull. de l'Academie Imperiale de Med.*, Jan. 1854.)

IN this bulletin is a report by M. Bouchardat, on the researches of M. Mouries, respecting the value of phosphate of lime in nutrition, and the influence which the judicious employment of this salt is capable of exercising upon the mortality of children in large towns.

It is a comparatively short period since physiologists began to appreciate properly the importance of inorganic principles in the phenomena of life. The farther we penetrate into this complex problem, the greater is the importance

attributed to bodies, the presence of which in the human organism was regarded as quite accidental.

Very dissimilar organic compounds may be substituted for each other in our diet without any disorder in the general harmony, but the inorganic principles can only be replaced by substances very closely analogous to them. Albumen, fibrin, and casein, and other more complex aliments, though differing in origin and composition, may fulfil the same physiological end, but it is different with inorganic principles. Lecanu has shown that iron is indispensable for the proper constitution of blood-globules; chloride of sodium is of primary importance also as a constituent of the liquor sanguinis, and it is only as an exception that we find, in certain graminivora, this salt partially replaced by the phosphate of soda, or of potash. Liebig has shown that the chloride of potassium of the muscles cannot be replaced by chloride of sodium. Each inorganic constituent of the organism has, therefore, its definite and limited sphere of action, to which it is exclusively adapted.

Among the indispensable inorganic salts, the phosphate of lime holds an important rank. M. Mouries has devoted himself to the elucidation of its peculiar action. He deduces from his experiments the following conclusions:—

1. Phosphate of lime plays a more important part in nutrition than has heretofore been believed. Independently of its necessity as a constituent of bone, this salt maintains that irritability without which there is no assimilation, and consequently no nutrition. Its insufficiency, therefore, produces death with all the symptoms of inanition, while its insufficiency in a less degree, produces a series of lymphatic diseases.

2. The food consumed in cities is deficient in this respect. Nurses' milk has, consequently, the same defect. The infant as well as the fœtus suffers from the deprivation of this element so indispensable to its development and life. Hence one of the causes of the increase in the number of still-born children, and of the mortality of infancy.

3. The addition of this salt, in combination with animal matter, to alimentary substances, obviates one cause of disease and death.

The following are the principal facts on which M. Mouries relies to establish these conclusions:—

The blood of animals contains a constant proportion of earthy phosphates, which is independent of their ingesta. The pigeon ingests phosphate of lime slightly in excess, in the grain and calcareous gravels which it picks up; the horse swallows an excess, in its fodder; the dog procures a still greater excess from the bones on which he is fed; and yet the blood of the pigeon contains in 1000 grammes 1·20 of phosphate of lime; the horse, 0·5; the dog, 0·4. This result is not accidental; all birds whose blood has been analyzed have 1·5 to 1·2 of phosphate of lime, while the proportion in the blood of the carnivora and herbivora varies from 0·9 to 0·4. The proportion thus regulated by nature is modified by age and sex. The bull, cow, and calf have the same food, yet their blood contains respectively 0·5, 0·9, 0·8 of phosphate of lime.

The requisite proportion of alkaline phosphates varies, therefore, in different animals. A pigeon weighing one pound died at the end of ten months, during which period he was fed daily on one ounce of wheat, with common water for a drink, by which rather more than a grain of phosphate of lime was ingested daily: on the other hand, a woman weighing 100 pounds enjoyed perfect health upon a diet which furnished her daily with 90 grains of phosphate of lime. Thus health in the one case, and death in the other, with relatively equal quantities of this salt.

We shall recur to this example to show how complex are the conditions of these experiments, and what reserve is necessary in drawing conclusions from them.

M. Mouries asserts, and the fact has already been noted by Chossat, that if the proportion of alkaline phosphates of the food is deficient, there ensues atony of the digestive organs, imperfect assimilation, and death. To prove that pigeons die from want of phosphate of lime, we may observe that their death is hastened if they are allowed only distilled water, while their lives may be preserved by adding earthy phosphates to their food.

M. Bouchardat observed that the grain on which MM. Mouries and Chossat fed their pigeons contained only traces of common salt. The birds therefore should be expected to suffer from the deprivation of this principle. M. Bouchardat accordingly made this experiment; he confined two pigeons, and fed them on dried grain. In two months the health of the female became impaired; she suffered from thirst and diarrhœa, and laid no more eggs. She was set at liberty. She flew immediately to a window-sill impregnated with alkaline chlorides, and began to peck eagerly; there was a larger quantity of salts on the interior of the window-frame; the pigeon entered through the open window, and permitted herself to be recaptured, so imperious was her demand for these principles. Her health was re-established; in three days she laid another egg. It is wrong, therefore, to conclude, with M. Mouries, that a deficiency of phosphates is the only cause of the symptoms he observed; in this case the absence of chlorides was the obvious cause.

M. Mouries has established, by interesting calculations, that grain furnishes a sufficient supply of phosphate of lime for the reparation of bone, but not for other essential functions of the economy. From the curious fact that there is a constant proportion between the temperature of animals and the amount of phosphate of lime contained in their blood, he deduces the principle that this salt keeps up animal irritability, without which nutrition is impossible. The following table must interest physiologists:—

	Phosphate of Lime.		Temperature.
	Mouries.	Poggiale.	
Blood of the duck,	1.50		42°5 cent.
“ the hen,	1.35	1.25	41°5 “
“ the pigeon,	1.20	1.23	40° “
“ man,	0.80	0.6	37°5 “
“ horse,	0.40	0.5	36°8 “
“ frogs,	a trace.		90 “

If these results are confirmed, it will appear that the ingestion of phosphate of lime is not only indispensable for the reparation of bone, but that it is connected with the function of calorification.

In the second portion of his memoir, M. Mouries, starting from the principle demonstrated by Chossat, verified by Boussingault, taught by Berard, and now admitted by all physiologists, that diet is defective which does not contain enough phosphate of lime to repair the waste which is continually going on in the economy, attempts to prove that the food commonly consumed in cities does not contain the quantity of this salt which is required by nurses and pregnant women.

He commences by calculating the quantity of phosphate of lime which ought to be ingested in the twenty-four hours, which he estimates from analyses of the excreta at 110 grains. He then attempts to show that this quantity is not contained in the food of nurses in cities. The urine of women in the country contains 90 grains of phosphate of lime in the twenty-four hours, while the amount of this salt in the urine of women in cities varies from 20 to 90 grains. M. Mouries has sought to confirm his hypothesis by direct proofs; he has examined the food consumed in cities, and shown that it exhibits a deficiency of one half in alkaline phosphates. He has examined the milk of nurses, and shown that in eighteen healthy country women the proportion of earthy phosphates in the milk varied from 1.2 to 2.4 per cent., while in the milk of ten Paris nurses the proportion varied from 0.5 to 0.9, and in seven others there was only a trace of phosphate of lime.

In the third portion of his essay M. Mouries adduces clinical facts in illustration of the advantage of supplying this deficiency of phosphate of lime in aliment. In thirteen cases, in which the proportion of phosphate of lime averaged 0.7, 75 grains of this salt, with twice that quantity of albumen, was daily administered in soup; in a week the proportion of earthy phosphate in the milk rose to 2.1. In five cases pregnant women were subjected to the same treatment; the milk, after delivery, contained 1.9 to 2.1 of phosphate of lime. Only three of the eighteen children died.

These results, though insufficient to determine such a serious question, are yet very worthy of attention.

ART. 3.—*The results of Re-vaccination in the Prussian Army during 1853.*
By Dr. HOPE.

(*Gaz. Hebdomadaire*, May 12, 1854.)

In Prussia, each conscript is re-vaccinated when he enters upon his military duties, and in this way 44,652 men were re-vaccinated in 1853. Of this number 32,642 presented manifest vaccine cicatrices; 7643 had doubtful cicatrices; and 4367 had no traces of such cicatrices. The re-vaccination gave rise to the regular vaccine eruption in 28,329, and to an irregular eruption in 5933; it failed altogether in 7664. According to these figures, the operation succeeded in 69 out of 100 of the cases already vaccinated.

On comparing these results with those of former years, the numbers of successful re-vaccinations is seen to go on increasing year by year.

Years.	Numbers of successful Re-vaccinations.	Years.	Numbers of successful Re-vaccinations.
1833	33 in 100	1844	57 in 100
1834	27 "	1845	58 "
1835	42 "	1846	60 "
1836	46 "	1847	64 "
1837	49 "	1848	64 "
1838	50 "	1849	64 "
1839	51 "	1850	61 "
1840	54 "	1851	64 "
1841	57 "	1852	69 "
1842	58 "	1853	69 "
1843	57 "		

These figures speak for themselves.

During 1853, varioloid affections were very prevalent in the Prussian army. Their number was 138; 25 of chicken-pox, 106 of modified small-pox, and 7 of true small-pox. Of this number, re-vaccination had not been performed in 12 cases of chicken-pox, in 56 cases of modified small-pox, and in 3 cases of true small-pox. It had not been successful in 6 cases of chicken-pox, in 34 cases of modified small-pox, and in 2 cases of small-pox; and it had succeeded in 7 cases of chicken-pox, in 16 cases of modified small-pox, and in 2 cases of small-pox. One of the last two had been re-vaccinated 15 years previously; and one of the soldiers, who had not been re-vaccinated, had on his face the marks of small-pox which he had taken in his infancy.

(B) ACUTE DISEASES.

ART. 4.—*The probabilities of Contagion in Fever.* By Dr. STOKES.

(*Medical Times and Gazette*, June 24, 1854.)

“What I wish you to believe, gentlemen, is, as I have already stated, that our fever is both epidemic, as proceeding from general but unknown causes, and also contagious; and no one can deny that causes which would act in depressing the health and moral energy of a people, by rendering them less able to resist the effects of disease, would increase the general mortality. The influence of bad ventilation and overcrowding I need not here dwell on; nor, on the other hand, need I occupy your time with more arguments to establish the truth of the doctrine of contagion. You will find in the writings of Dr. Christison, and Dr. Graves, convincing evidence on these points; and let me again refer to the great argument drawn from the liability to contract fever which has so long been observed among the medical practitioners of Ireland.

“Before I leave this subject, I wish to recall to your memories the calculation made by Bishop Brinkley, the results of which were so strongly in favor of the communicability of typhus. They went to show, that an overwhelming number of chances would exist against the occurrence of a certain event, such as

the sickening of eleven out of twelve of a family, in a particular district, if the sickening of one did not promote that of another, or, in other words, if the disease were not contagious. On this subject, I have had the honor of receiving a letter from Dr. Paget, of Cambridge; and I would not be doing justice to you, or the question generally, if I did not state the objection made by this eminent physician, as to the soundness of the conclusions in favor of contagion, which appear deducible from these calculations. Dr. Paget observes, that the form in which the problems are stated, excludes the consideration of all local influences, except contagion; in this he is perfectly correct, for the elements of local influences was not presented in the questions given to Dr. Brinkley for solution; and for this reason, that the framer of the questions was not a believer in the effect of these local influences in causing fever. Yet we must agree with Dr. Paget, that had this element of local influences, besides contagion, been included, it must necessarily have diminished, by whatever was its real value, the overwhelming result which the calculations, as they now stand, gives in favor of contagion. But, even if we give a value to this cause which would diminish the numbers—say, even by 100,000,000—it would still leave the chances against the event, on the non-contagion theory, not less than 89,000,000 to 1,—a result more than amply sufficient to confirm the doctrine of the communicability of the disease. But even Dr. Paget himself admits, that, taking the case of the second calculation, if the consequence of these deductions on the score of local causes, were to reduce the probability of 300,000 to 1 to that of 1000 to 1, yet this latter probability would be sufficient to carry conviction to the mind of any candid person. He, however, observes, that we have unhappily no means of estimating numerically the requisite deductions, no means of calculating the effect of noxious exhalations from decomposing organic substances, of bad food, and other assignable causes, which have been supposed capable of promoting the spread of fevers; and he properly remarks, that Dr. Brinkley's results include, with contagion, the possible effects, not only of known, but also of all unknown causes, which may make an individual household more liable to fever than their neighbors. I entirely agree with Dr. Paget, that, as an argument for contagion, the results of Dr. Brinkley's calculations must be taken minus the effect of local influences; and I feel indebted to him for having drawn my attention to this point, and to the importance of noticing it, when the numerical value of these results is considered. My opinion, however, as I have already stated to you, is that, in Ireland, local influences have not that great importance either as generators or promoters of fever which some believe them to have, and, consequently, the deductions to be made in favor of these causes would not greatly weaken the general results. We must believe, that the causes of fever, independent of mere contagion, are various in the extreme, that they are probably numerous and complicated, acting in combination rather than singly, and varying in their effects, not only in consequence of their own properties and combinations, but also as regards the condition of the individual in whom fever is developed. To this point I have already alluded in a former lecture, in speaking of the influence of the same contagion on individuals of different countries. And Dr. Paget, in observing that our pathology of fever is not so perfect as to assure us that there are no predisposing causes besides those which are commonly allowed, notices the comparative immunity of infants and persons above forty years of age from the typhoid fever with rose spots, and affections of Peyer's glands, and as indicating that the constitution of the individual is an element in the question."—(*Clinical Lectures on Fever*, No. 6.)

ART. 5.—Epidemic changes in the local affections of Fever. By Dr. STOKES.

(*Medical Times and Gazette*, July 22, 1854.)

"In their seat, if not in their nature, these affections are observed to vary in different countries. On the Continent—at least in France, and in a large portion of Germany—the frequency, and, probably, the preponderance of the secondary disease of the intestines, is a matter that must be admitted. So remarkable, indeed, is the predominance of the tumefaction and ulceration of the mucous

glands of the intestine in France, that Andral, in the first edition of the *Clinique Médicale*, described fevers under the general head of diseases of the digestive system; and yet Andral was no blind follower of Broussais. In Ireland, however, we do not find this remarkable preponderance of the secondary diseases of the digestive system; but, when I state this to you, I wish you to understand and adopt this principle, that all statements as to the anatomical characters of fever, as it prevails here or elsewhere, are to be accepted only so far as they apply to the prevailing epidemic. And, although it is true, that on comparing our typhus with the French typhoid fever, this difference becomes apparent, that the existence of follicular disease of the intestine is almost the rule, and its absence the exception in the latter affection, while, in the Irish typhus, this condition of the intestine is rare, you must, however, bear in mind, that in Ireland, and in our own time, we have had a great epidemic of what was certainly typhus fever, in which the condition of the intestine accurately represented that which is found to prevail on the Continent."

ART. 6.—*Indications for treatment in Fever afforded by the state of the Heart.*
By Dr. STOKES.

(*Medical Times and Gazette*, May 20, 1854.)

In one of the Clinical Lectures on Fever, delivered by Dr. Stokes, in the Meath Hospital, Dublin, and reported by Dr. Lyons, are these very important and practical remarks:—

"I have sometimes observed that students were under a misapprehension about the doctrines which we have long held in this hospital with respect to the condition of the heart as a guide for the use of wine. They have come to the erroneous opinion that we are only to give wine where we find the want of the first sound of the heart, and that we are not to give wine where the heart is acting well. This is a mistaken view of the matter. What we have established as to the state of the heart in connection with the effect of stimulants, is simply this,—we have ascertained that the efficacy of stimulants is often directly as the debility of the heart. It has been also ascertained that the power of bearing stimulants, their effect upon the nervous system, their good effects on the general condition, are directly as the weakness of the heart. We may lay down as a rule, that there are three conditions of the heart to be looked at by the practical man in the treatment of fever. In one, we have an excited heart—a violently excited heart all through the case; and this heart may be excited and violent, although the symptoms be those of extreme adynamia, although the surface be cold, the breath cold, and the pulse so feeble that it cannot be discovered. Nay, the heart may act with great force for several days, and yet there be no pulse at the wrist. This is one case. In the next case, we find exactly an opposite condition, in which the systolic force of the heart is diminished. This is shown by loss of impulse of the heart, by diminution of the first sound, and, in certain cases, by extinction of the first sound of the heart while the second remains. This is a case which calls for wine, and in which you should give it: it is a case in which, in the vast majority of instances, wine will agree with the patient. There is a third set of cases in which the heart does not seem to be implicated at all in the course of the disease, in which, notwithstanding the existence of the most extraordinary group of symptoms affecting various organs, the heart, in the middle of the storm, seems to be in a state of calm and quiet. If we compare these three sets of cases with a view to prognosis, we may arrange them in this way. The case of excited heart all through, with feeble pulse and with adynamia, is unquestionably the worst case. There is no worse symptom in fever than an excited heart. It is especially a bad symptom when, with that excitement, we find a feeble pulse. The next will be the case of sinking of the heart; and the most favorable case is that in which, as I said before, the heart seems to escape disease. But you are not to suppose, that because you have an excited heart you are not to give wine if the symptoms of the patient require it: and you are not to suppose that, because the heart is not affected at all, you are to withhold wine if the general symptoms of the patient

require it. You are not to found your exhibition of wine or stimulants upon any one thing; you are to take the general state of the patient into consideration. What we have done is to discover an intelligible practical rule which will guide you in the use of wine in certain, I think in many, cases; but you are not to suppose that because this man has a clear first sound at his heart, therefore you are not to give wine. You are not to suppose that because the heart is safe you can do without wine."

ART. 7.—*The great importance of Nourishment in Fever.* By Dr. STOKES.

(Medical Times and Gazette, May 29, 1854.)

I wish also strongly to impress on you the great importance of the use of other forms of nourishment in this disease; for we must not only keep up the nervous energy of the system by wine, but we must support nature by food. There is no mistake more fatal in fever than the withholding of food. I was early taught the importance of the use of careful nourishment in fever by my friend and colleague, Dr. Graves. I remember once, Dr. Graves, when speaking of the necessity of the use of nourishment in fever, made use of these words,—‘If you are at a loss for an epitaph to be placed on my tomb, here is one for you,—*He fed fevers.*’ In addition to the prejudices with which the inflammatory doctrine imbued so many minds, with respect to the use of food in fever, there was a new set of arguments raised against it, in consequence of the experiments of an American physician. I allude to the case observed by Dr. Beaumont, and so often quoted since. In this remarkable case, various medicinal substances and articles of food were introduced through an external fistula into the stomach, their effects being noted, as also the conditions of temperature, vascularity, &c. A set of results were subsequently published in connection with the action of the stomach upon food. One of the results stated to have been thus obtained was, that the existence of the state of fever altogether suspended the process of digestion. Here was a statement which had the appearance of being the result of strict observation. It influenced a number of young men; but did it influence those who had once been in charge of a fever hospital? Not at all; because those men knew very well that, no matter what Beaumont might say about the stomach not digesting when the patient had fever, in thousands of cases patients in fever digested remarkably well, required food, and derived benefit from it. In a large number of cases of typhus fever, the stomach has an excellent power of digestion; and, I believe, if we were bold enough, we would find that many articles of food usually forbidden to fever patients might be given to them with safety. A curious incident was related to me which shows that the stomach in fever is capable of digesting even a rather coarse article of food. A lady who had been recently married was attacked with extremely severe petechial fever; she was covered with dark-colored maculæ, and the disease had run to about the twelfth or thirteenth day. She was attended by several eminent physicians. Her case was an extremely bad one, and her life was all but despaired of. She was violently delirious. Her husband had occasion to leave the house on some business. At the period of the dinner-hour of the family, the servants were cooking a rump of beef and cabbage, and the odor of it filled the house. In her delirium she called for some of the beef and cabbage; she was then, you must understand, in severe fever, and covered with maculæ. Her sister, who was attending her, believing she was dying, thought it only right to indulge her, from the feeling that it was right to indulge the request of a dying person. She proceeded to the kitchen, and, as soon as the beef was boiled, cut a very large mess of beef and cabbage; and this was brought up smoking hot to the lady’s bedside, when she devoured it with great avidity. Shortly afterwards her husband came in, and was told what had happened. He became terrified, and sent for physicians in every direction. Four or five assembled; time was pressing, and every one agreed that something should be done. At length the late Dr. Harvey, a practical physician of the very first class, arrived. He was laid hold of by the agonized husband, forced up-stairs, and his opinion earnestly requested. At that time the stomach-pump was not in fashion, but every one agreed that something decisive

should be done, that an emetic should be given, or some extraordinary effort made to get this mess of beef and cabbage out of the lady's stomach. When Dr. Harvey went to the bedside, he found the patient in a tranquil sleep. He turned round, and when anxiously appealed to what should be done, he said—"You had better wait till she wakens; let her sleep it out." She slept for four or five hours; awoke wonderfully better, and on the following day was out of danger. I do not give you this case to induce you to feed your patients with salt beef and cabbage in fever, but it is very important, as showing that in typhus fever, with maculæ, the stomach is capable not only of digesting such a coarse article of food as salt beef, but that even such food may have a good effect.—(Clinical Lectures on Fever, No. 5.)

ART. 8.—*The non-inflammatory nature of the ordinary Bronchial Complication of Typhus.* By Dr. STOKES.

(*Medical Times and Gazette*, Aug. 19, 1854.)

"You will commonly hear it said, that this or that patient in typhus has got bronchitis; and if we were to be guided by physical signs alone, such a statement would seem to be correct. But I wish you to believe that the essence of this affection is not bronchitis, but rather a special condition of the air-passages, secondary to the typhus fever, the result either of the typhus deposit or of the vascularity with turgescence, of which I spoke in a former lecture. If bronchitis—that is to say, if inflammatory action supervenes—it must be considered either as reactive or specific. I am anxious to impress this upon you, because there are still many practitioners who hold that the physical signs of bronchitis are sufficient to establish the existence of inflammation. Now, I do not know any characteristic difference between the physical signs which may occur in ordinary idiopathic bronchitis and those which present themselves in typhus when the air-tubes are engaged. In both you have sonorous, sibilant, mucous, and crepitating râles; and yet the two diseases are pathologically distinct. Observe, that whatever will diminish the calibre of the tubes, whether it be deposit, typhoid congestion, or true inflammation, will give râle; whatever causes secretion, whether it be true inflammation, or something the very opposite of inflammation, will give you râle. We have, as I said before, in typhus, the physical signs which are observed in true bronchitis; but beware how, in any given case of fever, you conclude from their presence that the patient has true bronchitis. In certain cases there may be reactive irritation; but never forget that the typhoid disease alone, without any inflammation whatever, is competent to produce all the signs of bronchitis. Why do I urge this so much on you? Because I wish to avail myself of every opportunity of removing from your minds the erroneous doctrines of inflammation which have been so long in vogue. We are greatly influenced by names; and though I do not suppose that there are many who would treat a case of the bronchial affection in typhus with the same reducing measures which they would employ in the idiopathic disease, yet I am sure that the idea of these signs proceeding from inflammation makes many of us who have not yet unlearned our early teachings, timid in the use of stimulants.

"We find that this bronchial disease runs a course exactly analogous to that of the other secondary affections of typhus. It comes on insidiously, or, as I said before, silently; it gradually advances to its maximum, and sometimes increases to that degree that the patient dies by asphyxia. This is often the case when the disease has not been recognized at an early period. It is in almost all cases preceded by the symptoms of typhus for several days. I think in the best-marked cases it first shows itself about the fourth or fifth day of the disease; but it may supervene at any period of the case. It subsides spontaneously. You will have abundant opportunities of observing the following curious circumstance in the subsidence of this disease, either when the affection runs its natural course, or when it has been necessary to treat it specially. In the true idiopathic bronchitis, when the patient is placed under treatment, we observe the disappearance of the râles to be gradual; they are less intense and less complicated day by day; and this goes on probably for a week or ten days,

or it may be a fortnight, before the last shade of râle disappears. In the typhus affection, on the contrary, you will often observe that the most extensive, intense, and complicated râles disappear as if by enchantment, leaving the respiratory murmur perfectly pure. This sudden disappearance of the physical signs is only an argument among many to show their non-inflammatory origin. Nothing can be more remarkable than this; it seems analogous to the sudden disappearance of the eruption of scarlatina from the skin. You may often see this eruption lasting for three or four days, and then suddenly disappearing, leaving the skin white and pure. Consider the case of the lung in the same way, and in place of the scarlatina eruption, take the secondary bronchial disease or eruption, if you will, and you can understand the occurrence of a similar change. Mind, I do not say this happens in all cases; and I suppose that for its occurrence it is necessary that there shall have been little, if any, re-active irritation. And, as I said before, we see it in cases not only where the disease has been little, if at all, interfered with by treatment, but in others in which we have used such remedies as dry cupping, counter-irritation, and various stimulant medicines. Here the practitioner is often surprised at the rapid and complete success of his treatment, and may take credit to himself for bringing about a change which was to a great degree, at all events, induced by the operation of the law of periodicity.

"In the next place, we find that the best treatment in such cases is the stimulant. The mere circumstance of a patient having or presenting the most intense signs of bronchitis in typhus fever does not by any means warrant us in bleeding him, in reducing him, in exhibiting tartar emetic, or in withholding wine. Nothing of the kind; the best treatment for such cases is the free use of wine, of ammonia, turpentine, bark, and such measures.

"Another argument is drawn from this interesting fact, that in a large number of cases of softened heart in typhus, we find a combination with the bronchial disease, and it is quite fair to conclude, that the conditions of the lung and heart in these cases are similar. The practical conclusion, then to be drawn is, that the physical signs of bronchitis in a case of maculated typhus fever should not make you conclude that the patient had bronchial inflammation; and therefore you should not treat the case as such.

"There is a remarkable case of fever which is not at all uncommon in this country, in which we have an alternating disease, as it were, between the abdominal and the pulmonary organs in typhus fever. This is a very bad form of fever—one of the worst. We find that to-day, we shall say, the chest is greatly loaded, that you get no good respiratory murmur; there are most intense râles, and all the symptoms of extensive disease of the lung. At this time, the belly is soft; it is not tender on pressure; and there is no diarrhœa. Things go on for two or three days, when we find the belly to be swollen, tympanitic, tender on pressure; there is diarrhœa; and on applying the stethoscope to the chest we find it comparatively free, and the râles either gone or almost altogether gone."
—(*Cl. Lectures on Fever, No. 8.*)

ART. 9.—*The relative frequency of Chest and Head Symptoms in Fever.*
By Dr. STOKES.

(*Medical Times and Gazette, July 22, 1854.*)

"With respect to the question of the comparative frequency and importance of the pulmonary as contrasted with the nervous symptoms in fever, as it affects the lower and upper classes in this country, my decided impression is, that taking the experience of the last twenty-five years, the secondary bronchial, or, to speak more generally, the pulmonary complications are much more frequent and dangerous in hospital than in private practice. It is not easy to explain why this should be so, but certainly we find a greater preponderance of nervous symptoms in the typhus fever, as it affects the upper classes of society, than in cases of the disease as we meet with it in hospital; while in hospital practice the nervous symptoms, though we cannot say that they are absent, seldom require any very special interference on the part of the practitioner. No

doubt we meet with coma and subsultus tendinum occasionally, but that predominance of nervous symptoms in the early periods of typhus, which is so common in the upper classes of society, is but rarely seen in our wards: and if you will only reflect on the simple fact, that we so rarely have occasion to shave the head among our hospital patients, you will fully see the truth of what we say. Remember, too, how many cases we have had in which, while all the symptoms of typhus—such as prostration, weakness of the heart, eruptions of maculæ and petechiæ, and well-marked secondary diseases of the mucous membrane of the intestines—were present, while the patients' minds remained quite unclouded, and while no symptoms occurred calling for any special measures directed to the head. The typhus of Ireland, then, is not characterized, as Dr. Lombard has described it, by a preponderance of cephalic symptoms, at least when it occurs in that class from which he supposes the best specimens of the disease to be drawn. He is as incorrect in his statements about the predominance of cephalic symptoms as when he says that the absence of follicular ulcerations of the intestines is a distinctive mark of Irish typhus.

“In the typhus fever of the upper classes in this country the nervous symptoms are generally much more aggravated and developed at an earlier period; and it may be that this preponderance of the nervous symptoms, this tendency to affections of the brain in one class, even though these affections be principally neurotic, is a cause of the comparative exemption of such cases from the secondary bronchial disease. You will find as you advance in the study of general pathology, plenty of examples in which diseases of structure or of deposition are suspended or replaced by purely nervous affections. Explain it as we will, the general proposition appears true, that the nervous symptoms, comparatively speaking, are but slightly developed in the fever of the lower classes, while those indicative of nervous disease are much more prominent; and conversely that in the upper ranks symptoms indicative of irritation of the mucous surfaces are less developed, while the nervous symptoms are severe; and this, perhaps, may throw some light upon the doctrine which has been long held by many, that the mortality of fever is greater in proportion as we ascend in the scale of society.” (*Clinical Lectures on Fever*, No. 7.)

ART. 10.—*Quickness of Pulse after Fever.* By Dr. STOKES.

(*Medical Times and Gazette*, Oct. 14, 1854.)

“There is a case in the small fever ward to which I would wish to direct your attention. Although the patient has convalesced after a long fever, and is now gaining flesh and strength, we have found that the pulse continues rapid. Now, this is a circumstance which must always excite suspicion. In this patient, the signs of abdominal and pulmonary lesion have disappeared, as well as the characteristic expression of what may be termed the condition or state of fever,—yet, we find that his pulse does not correspond with the signs of improvement in all the other functions. It was suggested by Laennec, that the rapidity of pulse in patients after fever might depend on softening of the heart; but we shall see by and by, that the true typhous softening of the heart, so far from inducing rapidity of pulse during convalescence, has much more frequently the effect of making it slow; not only slow as considered with reference to the condition of health, but actually falling below the ordinary standard. * * * *

“These cases of quickness of pulse are of two kinds. In one class the pulse has never lost the rapidity it attained during the fever; or it has, perhaps, come down fifteen or twenty beats in the minute, and its rate then remains stationary. In the other cases the pulse, which had become quiet, rises to 100 or 120, or even higher, and remains at that rate for days together, without our being able to detect any cause for this increased rapidity. This, I think, is the worst case of the two; at least, it appears more often to indicate a new pathological change.

“The local diseases which have been found most frequently to attend this condition are of two kinds; one of them is tuberculosis—the deposition of tubercles in the lungs and other parts; the other is the existence of a secondary re-

active inflammation in the mucous glands of the intestines. To this subject Dr. Cheyne long ago drew attention, in speaking of imperfect convalescence in typhus fever; and he gives several cases in the Report of the Hardwicke and Whitworth Hospitals, in which patients had recovered well from typhus fever; had, to all appearance, regained a certain degree of strength; had regained their appetite: but they showed no disposition to leave their beds; the pulse gradually got quicker and quicker; the belly swelled; diarrhœa came on; and the patients died with symptoms of disease of the intestinal canal. Upon dissection, extensive ulceration of the mucous glands was found in the intestine. These are the two most common of the local diseases which you should suspect when you have a patient who has gone through a long fever with the pulse continuing or becoming very quick.

“But now suppose that you examine such a patient with great care. You percuss his chest; you examine the state of his respiration in every way, and you cannot satisfy yourself that there is any disease in his lung; and you will recollect what I mentioned to you at our last lecture, that in most cases of this tuberculosis after typhus there is great constitutional suffering. Well, you may make up your mind, from the absence of all these signs, that the patient is not becoming tuberculous, at all events. When you proceed to examine the abdomen, you will find, perhaps, that he has a good appetite; that his thirst is gone; that the belly is hollow and soft, and there is no tumefaction of it; that there is no tenderness on pressure anywhere; no throbbing of the abdominal aorta; no tendency to diarrhœa—in fact, no one symptom of disease of the mucous membrane of the intestine. And yet, as in the case above stairs, you have a pulse with this unpleasant degree of quickness. I rather think that this man’s pulse is now quicker than it was on the twenty-first day of his illness; and it makes me extremely uneasy about him. Now, gentlemen, suppose that you did not find either disease of the lung or disease of the abdomen, what should you suspect? Generally, in those circumstances, you may suspect that the patient will be attacked by phlegmasia dolens; for we have seen a considerable number of cases in which, after fever, where the pulse continued rapid, this disease exploded. It is, I think, more likely to occur in the non-petechial than in the petechial cases; it is more likely to occur in the long fevers than in the short fevers; it is very liable to arise in patients who have had a fever running on beyond twenty-one days, or thirty days, or forty days. In these patients, after the true symptoms of fever have subsided, they remain with a rapid pulse, and probably, in a week or ten days, symptoms of phlegmasia dolens come on; and the disposition to this venous inflammation is very curious in them, for you will very often find that the patient has two or three distinct attacks of it. It may affect one leg, and you will get the patient through that attack; still the pulse does not regain its natural rate. After a week or ten days, the other extremity will be attacked: and it is even possible that a third seizure may occur, as it were, a relapse of the disease in the part first affected; and in this way patients will go on laboring under these attacks and their consequences for months together. In most instances, however, the patients recover. In most of the cases I have seen, of this acute phlebitis consequent upon fever, there was distinct notice of the invasion of the disease—that is to say, the patient was attacked with pain in the calf of the leg. He is attacked, say in the course of the night, with pain in the calf of the leg; and when you come, in the morning, you find him exhibiting all the characteristics of the disease—a large swelling, pain on pressure, and all the other symptoms. Sometimes you find a cordy state of the superficial veins; at other times not. When you can feel a deep-seated vein, you will sometimes find it in a hard and cordy state.

“I think it right to warn you of these curious circumstances; for I am sure that in the course of your practice, you will often be in this position, that you will have a patient recovering from fever, and going on in every respect well, except that the pulse does not come down. The rule, then, is, that if the most minute examination fails to detect disease in the great viscera, you may expect the occurrence of phlebitis.

“The term, phlegmasia dolens, under these circumstances, is not always applied correctly; for the disease is not always painful. We have seen a few

instances in which the discovery of the local affection was entirely accidental. Of course, you will not suppose that I am prophesying that the patient above stairs will have phlegmasia dolens; all I say is, that he is in that state which would justify you in suspecting something of the kind.

"I have mentioned the rapid deposition of tubercle, ulceration of the intestines, and phlebitis of the extremities, as the diseases we have found to occur most commonly in these instances of unaccountable quickness of pulse after fever. Doubtless, there are many more examples of local disease arising under these circumstances; but the general rule will hold good, that this symptom foreshadows a disease, which, though at first latent, will before long become manifest. These diseases are generally attended with much irritation, and the condition of the patient is rather one of irritation, or inflammation if you will, than of essential fever. And this is one of the illustrations of a circumstance often observed by the clinical investigator, namely, the change of character of disease, locally and constitutionally, in the same patient, and within a not very extended period. The typhous condition, generally considered, will change into a different state. The essential or general morbid state will disappear, and a local irritation, with its symptomatic fever, becomes the prominent malady. Nay, you will sometimes find that the very condition of a local disease, formed during the first, the typhous or essential period of the disease, will itself change, and take on the characters of what is termed by some a 'healthy inflammation.' You may sometimes see this well illustrated in that terrible disease, accompanied by purulent deposits, in many of the articulations. The patients may throw off the typhoid state which attends the earlier periods of the disease, and then the affection of the joints seems to change in its nature, and take on the characters of ordinary arthritis. I have only seen this, however, where one or two of the larger joints had been affected with the primary disease; and it was most remarkable to witness the changes both in the constitutional state and the local affection. It was no longer necessary to use general stimulation; it was no longer improper to employ local antiphlogistic measures." (*Clinical Lectures on Fever*, No. 10.)

ART. 11.—*Tincture of the Sesquichloride of Iron in Scarlatina.* By DR. BYRD, Professor of Materia Medica in Savannah Medical College.

(*Northwestern Medical and Surgical Journal*, May, 1854.)

Guided by the proved utility of this remedy in erysipelas, and in the anasarca condition following scarlatina, Dr. Byrd has been led to give it a trial in scarlatina itself. He tells us that his most sanguine hopes were realized in more than twenty cases; but it unfortunately happens that he did not trust to the steel exclusively, so that no opinion can be formed from the reports of these cases. This much, however, may be said, that there is an *a priori* probability in favor of the soundness of the practice, which ought to lead to a repetition of the trial.

ART. 12.—*Is a child proof against Small-pox whose mother has had that affection during her pregnancy?* By Dr. WERTHEIM.

(*Edinburgh Monthly Journal*, July, 1854.)

To elucidate this interesting question, the following experiment was made in Professor Hebra's Clinique for Skin Diseases, in Vienna.

Franziska Tucek, æt. 35, in the seventh month of gestation, was admitted on the 12th February, for variola vera; and left the institution recovered on the 8th March. On the 19th April she gave birth to a boy, whose skin was perfectly healthy, exhibiting no trace whatever of the variolous eruption. On the 18th May vaccination of the boy was attempted with vaccine lymph (which had been tried successfully on another child of the same age), but without any effect being produced, although eight punctures were made. On the 25th May, a second vaccination was attempted, under similar circumstances, but again with the same negative results.

Art. 13.—Co-existence of Variola and Vaccinia. By (1) Professor SIMPSON and others; (2) Mr. SMITH, of Sheerness: and (3) Mr. DENDY.

1. (*Edinburgh Monthly Journal*, Sept., 1854.) 2. (*The Lancet*, Aug. 12, 1854.)
3. (*The Lancet*, June 17, 1854.)

1. At a recent meeting of the Edinburgh Obstetrical Society, Professor Simpson stated the particulars of two fatal cases in which these two diseases co-existed. In both instances the two eruptions had appeared upon the skin about exactly the same time, and had each followed its natural progress,—seemingly unmodified by the other. In both cases there was a full and perfect vaccine vesicle; but yet the co-existing small-pox eruption was so great, and the attendant secondary fever so severe, as to destroy the patients. He pointed out the two general laws, that when these two diseases appear on the skin on the same day, or within one or two days of each other, the two affections usually, as in the preceding instances, pass through their natural courses, unaltered and unmodified, and unabated by each other; but when one of the affections forestalls the other by a larger period, as by three, four, or more days, the eruption which appears last, whether cow-pox or small-pox, is usually more or less distinctly abridged and abated in its course, whilst the first, or earlier disease, does not undergo any change or curtailment in its own natural phenomena and progress.

At the same time, Drs. Weir, Thomson, Middleton, and others, reported similar cases. The following are the notes of Dr. Middleton's case:

CASE.—A child, æt. 5 months, was vaccinated on the 28th December, 1852; the small-pox appeared on the 30th; the child died on the 10th January, the fourteenth day after vaccination, and twelfth from the appearance of small-pox. The vaccination-vesicle began to inflame on the third day, and on the eighth it had attained its perfect form and size, with depressed surface. The eruption of the small-pox was confluent over the face and hands, but quite distinct over the feet and other parts of the body—not modified in any way. They were quite matured and full on the tenth day.

2. The case related by Mr. Smith, of Sheerness, is of the same character.

CASE.—Mrs. C., æt. 40, was confined on the 21st of April last, being about eight months advanced in pregnancy. At that time one of her daughters was laid up in the same house with small-pox, and another daughter had just recovered. The patient had been feverish, and had suffered from pain in the back two or three days previous to her confinement, and on the following day the eruption of small-pox appeared. Mr. Smith immediately removed the child from the mother, and vaccinated it.

On the 29th, notwithstanding the presence of two well-formed vaccine-vesicles on the left arm, variolus papulæ appeared plentifully on the face and chest, and in a day or two all over the body. The pustules, though very numerous, were small and discrete.

Up to the 6th of May, the child appeared to promise recovery. On that day fever set in, evidenced by great restlessness and refusal to be fed. During the next two days many of the pustules burst, and the little patient died on the 8th.

3. The case related by Mr. Dendy exhibits, on the other hand, the mutual influence of variola and vaccinia, and that very unmistakably. Mr. Dendy writes:—

CASE.—A girl, exhibiting no vaccine cicatrix, had attended and slept in the same room with her sister, affected with confluent variola. During this exposure she was vaccinated by Mr. Skegg, on the 18th of May, with fresh lymph. Three punctures were perfect.

On the 22d, premonitory symptoms of variola were observed; and on the 26th, papulæ. This was the eleventh day from the vaccination.

On the 30th, when I saw her, there were three very large, round, flat, dull-yellow pustules at the points of vaccination; variola plentifully scattered over the body.

On the 2d of June, eighteen days from the punctures, and seven days from the variolous papulæ, the variolous pustules changed to a brown, filmy scale, rapidly falling off; nothing like maturation or secondary fever occurring.

"The points both of curiosity and practical interest are, the synchronously modified or hybrid character of the two pocks, seeming, unless variola and vaccine be identical, to invalidate John Hunter's axiom; the antidotal or extreme mitigation of semi-confluent and extensive variola, although not absolutely prophylactic, and, above all, the total prevention of maturation and secondary fever. *A priori*, we should at once pronounce, on the seventh day of a perfect areolar and progressive vaccine-vesicle, complete immunity from variola; nor should we be prepared to see, as in this case, vesicles converted into unilocular cysts containing discs like the matured variolous pustulæ. A slight revolution has taken place regarding Jenner's opinion. Such a case as this, however, should make the objector pause, as it proves the value of vaccine far more than cases of prophylaxis, which may often be merely negative. These cases are very rare, but I could refer to five or six others."

ART. 14.—*Coexistence of Vaccinia and Varicella.* By Dr. STORER.

(*American Journal of Medical Science*, April, 1854.)

The following case is recorded in the *Transactions of the Boston Society of Medical Improvement*, as having some bearing upon the question of the identity of vaccinia and varicella.

"A fortnight previously Dr. Storer vaccinated a child six years of age. Calling, a few days after, to ascertain if the matter had been absorbed, he found his patient covered with the eruption of chicken-pox. Visiting it again to-day, with the view of revaccination, the vaccine-vesicle was observed to be pursuing its regular course."

ART. 15.—*The Plague of the Himalayan Territories v. True Plague.*

By Dr. JAMES BIRD.

(*Medical Times and Gazette*, May 13, 1854.)

The account, which is here abstracted, was read before the Epidemiological Society. It is itself abridged from the official reports on the subject.

Dr. Bird begins by observing that the contemplation of a possible visitation of true plague to the scene of our present warlike operations in the East must invest every research into the history and relation of like diseases with an importance that could not otherwise attach to the subject. But by considering, on a wide scale, former or distant plagues, apart from the many causes which disturb the judgment of those who had been witnesses of the scene, we were more likely to obtain unbiassed views, and principles of a comprehensive character, founded merely on the evidence afforded, not only in regard to general knowledge of all epidemic diseases, but respecting the causes and pathology of oriental plague in particular. The plague of the Himalayan territories of Gurhwal and Kumaon had broken out there at various times since 1823 to 1852, and had been attended by fearful mortality among the people. The Political Commissioner of these territories, Mr. Batten, and the late lamented Governor of Agra, Mr. Thomasson, had caused various inquiries to be made into the nature of this pestilence, the result of which was three reports—one by Superintending Surgeon Renny, and the other two by Assistant Surgeons Pearson and Francis. These reports having been forwarded by the Court of India Directors, for the information of the President and Council of the Epidemiological Society, they were given over to Dr. Bird, for abridgment, before they could be read to the society. All the facts recorded in the reports were accordingly included in the abridgment, which was read to the society under the following heads:—1st. History of the disease; 2d. Its Semeiology, or symptoms; 3d. Its Etiology, or causes; and, 4th. Its Anatomical Pathology; with some concluding remarks on the analogy of its morbid phenomena to true plague, and the manner in which it appears to be propagated. "In abridging these interesting reports," said he,

“on a form of epidemic disease which has been prevalent in Western and North-Western India since 1815, no facts have been omitted necessary for the formation of a correct opinion as to the true nature of this disease. Whether this be typhoid fever and glandular swellings, or a modified form of the Levant plague, has become matter of difference and dispute between Superintending Surgeon Renny and the other medical reporters. In the previous account of the characteristic symptoms, as given by the former, casual notice was taken of the apparent limited opportunities he had of seeing the disease, compared with those which were presented to Messrs. Pearson and Francis. If the series of symptoms recorded by the former were too few and insufficiently marked in character to justify the inference of a decided diagnostic opinion, those detailed by the latter, when compared with the enumeration of the true plague symptoms, as recorded for us by the most experienced observers of Levant plague, induce me to join issue in judgment with Messrs. Pearson and Francis, that the disease is decided plague; the infectious germs of which, when produced, may again become inert under certain conditions of latitude, climate, temperature, atmospheric pressure, and probable elevation of locality. But if the semeiology of the two forms of Indian and Levant plague be found so closely analogous, the morbid anatomy of the two is certainly little less so; and the weight of evidence here, in the question of dispute between Mr. Renny and Messrs. Pearson and Francis, is in favor of the correctness of their opinion. The lay official authorities on the spot incline, too, as would appear, to this view of the subject. In a letter, dated July, 1852, from the Secretary to Government of the north-western provinces, then presided over by the late lamented Mr. Thomasson, to the Medical Board of Fort William, it is said: ‘The Lieutenant-Governor gathers, from the information which has been collected, that, whether the *Mahamurree* may or may not be correctly designated the plague, it is a highly dangerous fever of a typhoid form, almost identical in its symptoms with the Levantine plague, and believed by the people to be contagious. It is impossible to discover or to determine the laws which confine the influence of *Mahamurree* as of the plague within certain limits, beyond which it rarely passes. The question is, how to mitigate its ravages within the limits where it does prevail.’ In this passage, where the word ‘contagious’ is used synonymously with ‘communicable,’ there is at once much good sense and sound medical philosophy, drawn as an inference from observed and recorded facts, to the exclusion of opinion founded on the conventional interpretation of terms differently used by parties engaged in the subject of controversy. One thing is obvious from these reports and official correspondence, that controversial parties, who discuss the origin and propagation of such diseases, are in danger of misunderstanding each other, and of misleading others, unless the writers have previously fixed the meaning which should be attached to the words ‘contagion’ and ‘infection-contagion.’ Dr. Copland properly makes use of it as only a mode of specific infection, or, more definitely, the transference from one individual to another of a morbid poison, either by direct and mediate contact, or inoculation. Mr. Renny, while he admits the probably infectious character of the Himalaya plague, states, somewhat vaguely, ‘that it is not propagated by a specific contagion, as small-pox and true plague,’ not recollecting that such an assertion must deny the production by the human body of a poisonous emanation in infectious diseases, capable of transference to others through the medium of atmospheric air. His opponents use the words infectious and contagious as synonymous, or as applicable to the character of all diseases communicable from person to person; and though they were at first disposed to trace the origin of the Himalayan pestilence to sources of imported contagion, they latterly admitted it to be both an endemic and an epidemic distemper, produced by general causes, just like that of Egypt, Syria, and Turkey, but propagated, too, by a specific one, the subtle, excreted matter which is generated from the human body, being capable of exciting like affections in others. The practical deductions they have made are: 1st. That *mahamurree* and plague are identical. 2d. That the disease is of local origin, capable of transmission from person to person, and from place to place. 3d. That it is gradually extending itself, and that no sufficient grounds exist for the supposition that it will never be developed in surrounding countries. 4th. That the local circumstances upon

which *mahamurree* depends should be done away with, and sanitary measures introduced; in which case it is probable that the disease will be gradually eradicated, or at any rate modified in severity. Neither is the difference between them and Mr. Renny very material, whether it be a malignant typhoid fever or plague, as Cullen's definition of the latter includes what is pathognomonic of it in these words: '*Typhus maxime contagiosa, cum summa debilitate; incerto morbi die, eruptio bubonum vel anthracum.*'"

ART. 16.—The Epidemic Fever, with scarlet eruption, prevalent in Calcutta in 1853.
By Dr. GOODEVE.

(*Indian Annals of Medical Science*, No. 1, Oct., 1853.)

A peculiar fever with scarlet eruption prevailed in Calcutta and other parts of Bengal in 1824, and was described by Twining, Mouat, and others. In 1847, a similar fever was seen, and was recorded by Dr. H. Goodeve. The fever now described by Dr. E. Goodeve appeared to be of a similar kind. The symptoms set in suddenly with shivering and fever, which was generally paroxysmal; each paroxysm lasted from two to fourteen hours, being followed by a remission of variable duration. A bright scarlet eruption rapidly followed the initiatory symptoms, being in six cases visible within twenty-four hours, and in two cases appearing in the first febrile paroxysm. It was first seen on the upper part of the neck, the face up to the scalp, and the upper part of the thorax; it then extended to, but was always fainter in, the upper extremities; it seldom extended to the abdomen or the lower extremities. In color, this eruption varied from bright red to a faint rose hue. It was occasionally slightly papular, and was obliterated on pressure. Its duration varied from forty-eight hours to six days; it was seldom followed by desquamation. The mucous membrane of the mouth and throat, and in some cases of the nose, was involved; there was redness, follicular enlargement, swelling of the tonsils, and sometimes, but rarely, ulceration. There was occasionally catarrh and congestion of the bronchial mucous membrane; sometimes there was catarrh of the alimentary mucous membrane; the urine was albuminous in one case. ♦

This fever differed from those previously recorded, in two important particulars; first, in the decided implication of the mucous membrane of the mouth and throat; and secondly, in the almost entire absence of articular symptoms, which, in former epidemics, have been so marked as to lead Dr. Copland to describe this disease in his Dictionary under the term, "*Scarlatina rheumatica.*" Only in one of the twenty-eight cases did these joint symptoms occur.

With respect to the identity of this disease with the European scarlatina, Dr. Goodeve hesitates to draw a conclusion, although he recapitulates the striking symptoms, and observes that they are the same as those which go to make up scarlatina.

The mortality was not great; only one case in twenty-eight was fatal. The treatment was simple.

ART. 17.—The fatty condition of the Liver in Yellow Fever. By Dr. BACHE.

(*American Journal of Medical Sciences*, July, 1853.)

In a paper '*On the Pathology of Yellow Fever,*' which does not otherwise claim our attention, Dr. Bache makes the following important remarks upon the condition of the liver. After stating the post-mortem particulars of fourteen cases, Dr. Bache proceeds:—

"In reviewing the lesions presented in the above cases, those of the most interest, certainly are the great excess of oil, found in the liver of all the fourteen cases by the aid of the microscope. Dr. Budd, in his work on diseases of the liver, makes some allusion to the probability of acute disease inducing fatty degeneration of that organ; for, at page 300 of the second edition, he says: '*In all cases in which I have yet ascribed fatty degeneration of the liver to local causes affecting the nutrition of the part, the accumulation of the fat has been*

partial. It may be, however, that the entire organ may be damaged by some acute disease, or in other ways, and may become fatty in consequence. I strongly suspect that this happens in yellow fever, and in the severe bilious remittents of tropical climates.' Dr. A. Clark, in a paper contained in the *New York Medical Times*, for May, 1853, called attention to the microscopical examination of the liver of a patient who had died of yellow fever; it having demonstrated 'a fatty state of all the secreting epithelial cells, and an abundance of free fat-globules.' He expresses a doubt as to whether the lesion is peculiar to yellow fever; as, in the case in which he made the observation, the liver may have been fatty before the attack of the fatal disease; and he puts the question to those who may have the opportunity of observing, 'Is not the change so constantly observed in the livers of those dying of yellow fever, an acute fatty degeneration?' The paper of Dr. Clark is not now by us to refer to, and, consequently, we cannot compare his observations with those made in the fourteen fatal cases occurring at the Pennsylvania Hospital. However, in order that others may do so, we will describe the microscopical appearances of the liver in the hospital cases. The secreting cells were pale, ill-defined, and less granular than when in the normal state. In the cells, with few exceptions, no nucleus could be detected, but its place was supplied by a single oil-globule. This was observed even in those cases in which the granular part of the cells was not so full of oil as in some others. Generally, the cells were so studded with oil-globules as to give one the idea of looking at a number of these latter, which had by chance become agglomerated or entangled by granular matter, leading to the conclusion that the cells were broken down. I am very sure we at first mistook some diseased cells for such oil-globules. Nor did the oil-globules confine themselves merely to the granular part of the cells and their nuclei; but they were found floating freely, of various sizes, all over the field of the microscope.

"These appearances were not only seen at the Pennsylvania Hospital, where they were frequently shown to physicians curious in such matters; but specimens of the morbid structure were sent to others familiar with the use of the microscope, and its application to pathology, who, in every case, confirmed the above conclusions. Moreover, several specimens, taken from the livers of persons who had fallen victims to the epidemic, and had not been admitted into the Pennsylvania Hospital, were sent there for examination, and found to present the same pathological appearances. From the above cases, are we not warranted in concluding that the liver of persons dying of yellow fever is a fatty liver? Indeed, may not the morbid change be called, as Dr. Clark has called it, 'an acute fatty degeneration?'"

ART. 18.—On Simaba Cedron as a substitute for Quinia in Fever. By Dr. PURPLE.

(*New York Journal of Medicine*, Sept., 1854.)

Dr. Purple details the five cases which are subjoined in proof of the valuable anti-periodic properties of the cedron seed, and states that he has subsequently treated six other cases with this drug exclusively, and with this result: "Four with cure, prompt and permanent; one passed from my observation before the result was known; and the remaining one is still under observation, having resisted emetics, quinia, and beberine, previous to consulting me."

Several writers have given their testimony to the same effect, and particularly Dr. Magrath, of Jamaica, who has tried the cedron extensively and successfully in intermittent fever. He has, also, tried it in remittent fever, but without any benefit.

Dr. Purple's cases are as follows:—

CASE 1.—Mrs. E., æt. 38, of nervous sanguine temperament, rather feeble health, the mother of five children, resided in Newark, New Jersey, during the summer of 1852, and there contracted intermittent fever, from which she slowly recovered under the use of quinia, having experienced three relapses in the course of the season. In the month of September, 1853, having resided in this city nearly a year, she was again attacked with the quotidian form of the disease, and consulted me in the intermission between the third and fourth paroxysms.

She was ordered, as there was considerable gastric derangement, fifteen grains *pil. rhei comp.*, to be taken immediately, and after the next paroxysm of fever, to take ten grains of the cedron in powder every two hours. At the period of the next (the fifth) paroxysm, she complained of slight headache, but experienced no chill. From this time she was ordered ten grains of cedron, in powder, three times daily, for ten days. She had no return of the disease, and enjoyed afterwards her usual health.

CASE 2.—Mr B, book-keeper in a bank, æt. 27, of spare habit, contracted intermittent fever on Staten Island, in the fall of 1852, which yielded to quinia. Late in the summer of 1853 he was again the subject of the disease, and consulted me some four weeks after the occurrence of the first paroxysm. Relying upon his own judgment, he had already taken quinia, in the same doses as previously, with the effect of temporarily arresting the disease. Its return, after an interval of nine days, led him to resume the use of the quinia in increased doses, until ringing of the ears convinced him of the propriety of consulting a physician. At the time of his first visit, finding that there existed much tenderness on pressure over the epigastrium, slight yellowness of the conjunctiva, and tongue coated with brown fur in the centre, with red tip and edges, he was ordered thirty grains of *ipecac.* in powder, with ten grains of calomel. This potion operated freely as an emeto-cathartic, and after the succeeding paroxysm of ague, he was ordered ten grains of cedron, reduced to powder by grating the seed on a nutmeg grater, every three hours. The paroxysm of ague, which was expected at its usual period, was delayed some two hours, and was somewhat less in severity and shorter in duration than that which succeeded the action of the emetic. As there existed some pain in the bowels, which was supposed to arise from the action of the cedron, he was ordered the same amount as before, every four hours, combined with fifteen drops *tinct. opu comp.* These directions were steadily adhered to for four days, when the paroxysms of ague having ceased, he was directed to omit the paregoric, and use the same amount of cedron three times a day. These orders were followed for some two weeks, when the farther use of the medicine was suspended. Mr B. has had no return of the disease. At no time did he complain of ringing in the ears, or any other unpleasant sensations, except the slight griping pain in the bowels, which could be attributed to the action of the cedron.

CASE 3.—M. S., æt. 29, by profession an accountant, of spare habit, and strong nervous temperament, in the summer of 1852, contracted intermittent fever, of the quotidian type, at Morrisania, where he was then residing. His attending physician put him upon the use of quinia, which, in the course of five days, arrested the paroxysms of ague. Remaining, however, exposed to the same causes, the disease returned in the course of the third week, when he was again put upon its use, with the effect of arresting the disease, although more tardily than on the previous occasion. From this time he remained free from the disease until January, 1853, when, from domestic causes, his usual health having become considerably impaired, he was attacked with the disease with much greater severity than on either of the previous occasions. Tonics combined with quinia, were ordered him by his medical attendant. These were perseveringly used, for a period of four weeks, with but slight beneficial effects, and, meantime, his general health had become still more impaired by the disease. Seeing that something more was required to arrest the paroxysms, he was, very properly, ordered an *ipecacuan* emetic, which was followed by blue pill, in five grain doses, three times daily, until two paroxysms (the fourth day) had passed by, when he was ordered Fowler's solution, accompanied with a liberal diet, and, during the well day, a moderate use of London porter. Under this treatment, there occurred soon a decided improvement in Mr S.'s case, and, although at the end of two weeks he had no distinct ague-chill, yet there remained a periodical headache, accompanied with fever and with neuralgic pains in the facial and inferior maxillary nerves. These, under the use of carbonate of iron and vegetable tonics, almost entirely disappeared, and from this time until the succeeding October, with the exception of an occasional chill, or ague paroxysm, he continued to attend to his usual business.

In the latter part of September, 1853, Mr. S. spent about a week on Staten

Island, and, immediately on his return to this city, was seized with the tertian form of intermittent fever, for the cure of which, in the course of four weeks, he took an ipecacuan emetic, quinia, Fowler's solution, nux vomica, and blue pill, followed again by quinia, with but slight, or temporary benefit. His general health having now become considerably reduced, he was almost ready to despair of a cure being effected in his case.

On the 2d of November I was first consulted in regard to the treatment of the case, and as he had but two days previously taken an emetico-cathartic, and there was but little chylopoietic derangement, he was immediately put upon the use of cedron in powder, and in twenty grain doses, every four hours in the froth of porter, with directions to suspend the remedy only during the hot stages of the disease. For four days he steadily persevered in the use of cedron, and at the end of this period, as there was a marked improvement—the paroxysms of fever having nearly ceased, and as there was present slight diarrhoea, accompanied with griping pains in the bowels—the cedron was diminished to ten grain doses, each dose of which was combined with fifteen drops of tinct. opii camph. This treatment was continued for three days, when all evidence of paroxysmal symptoms had disappeared. Mr. S. was now ordered ten grains of cedron every morning, with a view to its tonic effect; for I had become satisfied that it possessed decided tonic properties, especially in those states of the system which call for the use of columba, gentian, and other vegetable tonics. Under this treatment, he gradually and permanently convalesced, and has since had no return of the disease.

CASE 4.—A. N., æt. 19 years, of marked bilious temperament, and robust constitution, on the 26th of July, 1853, sickened with what he supposed to be a bilious attack, which, under domestic treatment, continued three days, when he was seized with a severe fit of ague, about 11 o'clock, A.M., which was followed with much febrile excitement, intense pain in the head, &c., which in its turn was succeeded by profuse sweating. With this paroxysm, all sickness passed off, and the next day he considered himself in usual health. On the second day from the first ague fit, at M., he sickened again, with a paroxysm, the same as two days previous, when, for the first time, he consulted me. Believing his attack to be intermittent fever, he was ordered to take of cedron, in powder, as much as could be held upon a Spanish shilling piece, every four hours, for forty-eight hours, omitting it only during the succeeding paroxysm, if it should occur. He took as directed, in all, ten doses, with the effect of permanently arresting the disease. He has since had no return of intermittent fever.

CASE 5.—A little girl, æt. about 6 years, daughter of Mr. H., of 29th street, was observed to complain, every other forenoon, of being chilly, which condition was followed by headache and fever. She was subjected to domestic treatment for a week or more, when the paroxysms of ague became well marked, and the fever was accompanied by delirium. When first seen by me, the centre of her tongue was coated with brownish-yellow, the tip being red; she complained of lassitude, and considerable pain in the epigastric region. She was ordered ten grains of pulv. rhei, with three grains of calomel, which produced three evacuations of the bowels. She was then directed to take a teaspoonful of the following mixture every four hours. cedron, thirty grains; simple syrup, two ounces, paregoric, one drachm. These directions were carried out for thirty-six hours, and as the next paroxysm did not recur, she was ordered a teaspoonful morning and evening. Her recovery was complete, and although apparently exposed to the same causes, she has since had no return of the disease.

From this, and other evidence affecting the therapeutical action of the cedron, Dr. Purple considers himself entitled to conclude:—

That it possesses decided anti-periodic properties, and is therefore applicable in the treatment of periodic diseases.

That it is less likely than quinia to produce encephalic or neurophatic phenomena.

That it may, in large doses, repeated often, produce griping of the bowels, and even diarrhoea; but that these conditions are easily controlled by appropriate medicaments.

That, as a remedy in intermittent fever, it possesses properties, in many respects, equal to quinia, and that in most cases it is equally adapted to the curation of this disease.

That, in the treatment of yellow fever, it does not appear to possess any particular advantages over quinia, but is equally well adapted to fulfil the indications which call for the use of this latter remedy.

That it possesses marked tonic properties, and deserves a prominent place in this classification of the *Materia Medica*.

The cedron seed was introduced to notice in 1850, as a remedy which was believed by the native Indians to be infallible in the bites of venomous serpents. It belongs to the natural order *Simarubæ*. Its habitat is New Grenada. At present it is very scarce, but there is every reason to believe that the supply would soon equal the demand for it.

ART. 19.—*Treatment of Intermittent Fever by Quinoidine.*
By Dr. PEPPER, Physician to the Pennsylvania Hospital.

(*Philadelphia Medical Examiner*, Sept. 1854.)

In April last, at the suggestion of Dr. Conrad, Dr. Pepper was induced to try quinoidine in lieu of cinchonia in the treatment of intermittent fever, and he now reports the results of that trial in five cases, which have been brought into the hospital since that time. As Dr. Pepper allows, this amount of evidence is insufficient to establish any positive conclusion in therapeutics, but it is sufficient to invite the attention of the profession to a more extended trial of the remedy.

“Before proceeding to report these cases, it may be well to state a few facts in regard to the remedy under consideration. As far back as 1833, Henry and Delondre discovered this alkaloid, and gave it its present name; the following year, however, further investigations induced them to believe that it was identical with quinia. In 1848, Winckler, a distinguished German chemist, gave a full description of it, and some of its salts; he at first, was also disposed to consider it as a mere hydrate of quinia; but by patient investigation, finally proved that it was a distinct substance, possessed of many distinct physical and chemical properties. In the last edition of Pereira's *Materia Medica and Therapeutics* for 1854, it is stated that the quinoidine may be obtained from most of the genuine cinchona barks, by the same processes that are used for procuring quinia; the sulphate of quinoidine being more soluble than the same salt of quinia, the former is left in the mother waters. The most important fact, however, in connection with this subject is, that this new alkaloid is found to abound in the cheaper kinds of barks from New Grenada; the Bogota cinchona, which contains but little quinia and a large amount of quinoidine, is now largely used in England for obtaining this last-named alkaloid. It can now be obtained at Powers and Weightman's, manufacturing chemists of Philadelphia, at fifty cents an ounce less than quinia; and there is no doubt that it could be supplied by the importation of the cheaper kinds of bark, at a price not exceeding that of cinchonia itself.”

The sulphate of quinoidine used by Dr. Pepper, presented much the same appearance as this salt of quinia, nor was there any marked difference in their taste or solubility. For those who desire to investigate more fully the chemical and physical properties of this substance, the author refers to an elaborate paper by Winckler, in the *Pharmaceutical Journal* for 1854, vol. viii. p. 527; and to an article by the same author, in the *Chemical Gazette*, vol. vi. p. 164. No allusion, however, is here made to its therapeutic properties, nor has he been able to refer to any author, where such information may be obtained. Mr. Proctor, the editor of the *American Journal of Pharmacy*, informed him that he had met with the same difficulty, and that with the view of elucidating this point, he had recently requested a medical friend to test its powers in intermittent fever; the result, he states, was most satisfactory in the only four cases of obstinate disease in which it was tried.

CASE 1.—A laborer, æt. 26 years, entered the hospital April 5th, with inter-

mittent fever of the tertian form, the paroxysm generally coming on at 10 A.M.; he had been suffering with the disease for two weeks.

On the 6th, he had a severe chill, lasting thirty minutes, and followed by the usual hot and sweating stages. Accordingly on the morning of the 8th, he was directed to take quinoidine sulph. grs. x. grs. ij. every hour, commencing at 5 o'clock.

From this time the patient had no return of the disease, and although he remained in the institution until the middle of June, he had no relapse during that time.

CASE 2.—T. W., laborer, admitted May 27th, stated that he had been subject to chills and fever for four months, and that he had contracted the disease in Savannah. At first, the paroxysms appeared to have come on about 10 o'clock every other day, lately, however, they had assumed the quotidian type, but still occurred at the same period of the day.

Although the patient had a chill on the day of his admission, as also on the following day, no treatment was instituted until the 29th, when he took the quinoidine in doses of grs. ij. every hour, commencing at 8 A.M., or just five hours before the expected paroxysm. The only perceptible effect in this instance, however, was the mitigation of the chill, and its postponement for about one hour.

On the following day, the same treatment was resumed, and with the most perfect success; he remained in the house about ten days after this, but during his stay had no relapse.

CASE 3.—A young Irish woman, æt. 22 years, was admitted June 2d; she stated that she had been suffering all last fall with chills and fever, and that she was finally cured of her disease, after entering this hospital. Since then, she has remained perfectly well up to May 20th, when the chills again appeared, and continued to recur daily at about 10 A.M.

With the view of ascertaining the character of the attacks, it was deemed most expedient not to interfere until the 5th, or three days after admission. She now took quinoidine in doses of grs. ij. every hour, commencing at 5 A.M., until in all grs. x. had been taken; without, however, checking the paroxysm, though it was certainly considerably mitigated.

On the following day, June 6th, the same plan was pursued, and with the effect of completely checking the disease, which, in fact, did not return during the ten days she remained in the hospital.

CASE 4.—A laborer, æt. 48 years, entered the house June 13th, suffering with a severe chill, he had the same on the five previous days, the paroxysms coming on in the course of the forenoon, but rather irregularly.

On the 14th, he had a chill, lasting nearly two hours, and commencing about 10 o'clock, A.M.; on the following day he took the quinoidine grs. x. as in the former instance, grs. ij. every hour, in anticipation of the chill. It, however, came on at the usual time, but was exceedingly mild, and lasted only thirty minutes.

On the 16th, the remedy was administered in like manner; upon this occasion it effectually checked the disease, nor was there any relapse up to July 1st, when he left the institution. In this case, it should be mentioned, that as the patient was somewhat anæmic, and had enlargement of the spleen, gr. i. of the quinoidine combined with gr. v. of carb. Ferri (Vallat), was continued three times a day, during his stay in the house.

CASE 5.—A sailor from Mobile, æt. 22, entered June 17th, sick two weeks with intermittent fever; the attacks coming on daily at about mid-day. This patient was somewhat prostrate and slightly jaundiced.

The treatment by quinoidine was commenced on the 19th; the paroxysms, however, came on one hour earlier than upon the previous day, and the chill was quite as severe as usual. On the 20th, he again took grs. ij. for five consecutive hours, in anticipation of a return; but from this time until he left the hospital, June 27th, he remained perfectly well.

Dr. Pepper continues:—

"Excepting in the first case, above reported, the remedy had to be repeated a

second time, before the fever could be fully arrested, but in no instance was its further use necessary. It is to be regretted that the cases could not have been retained longer under observation, so as to have fully ascertained as to the permanency of the cure; but the crowded state of the wards, and the unwillingness of the patients to remain when they felt perfectly well, rendered it impossible to effect this desirable end. It will be perceived that grs. x. was the largest amount given upon any one day; and as I have generally, under apparently similar circumstances, been obliged to give grs. xv. of sulph. quinia or cinchona, I am disposed to believe that the quinoidine is more active than either of these alkaloids. In England it is manufactured chiefly with the view of adulterating quinia; but if the above conclusion be confirmed by further observation, our patients' health will not suffer by such admixture, however unfavorably it may operate upon them in a pecuniary point of view."

ART. 20.—Common salt as a remedy for Intermittent Fever.

By Dr. HUTCHINSON, of Brooklyn.

(*New York Journal of Medicine*, March, 1854.)

In this article Dr. Hutchinson relates twenty-two cases of intermittent fever in which the treatment by salt was carried out.

The dose in which the salt was given varied from eight to twelve drachms during the apyrexia. At first, eight drachms were given, but the amount was subsequently increased to nine, ten, and even twelve drachms in one instance, with obvious benefit. Children required somewhat larger proportional doses than adults.

Mucilage of elm was selected as the vehicle, on account of its convenience, and because it sufficiently disguised the remedy, which was deemed a matter of importance; for it would have lost much of its efficacy, or have been repudiated altogether, had the patients known they were taking simply common salt. The following was the formula used:—

R.—Chloridi sodii ℥ij;
 Ulmi pulv. ℥ij;
 Aq. bullientis f ℥viiij.
 Infuse two hours, and strain.

This forms a saturated solution. Dose, a table-spoonful every two, three, or four hours, so that five or six doses may be taken during the apyrexia. It was not deemed necessary to precede its employment by evacuants, because the patients had recently used such remedies during their former attacks; and, moreover, Dr. Hutchinson preferred to use the salt alone, because its real value could thus be better determined. When it is necessary to precede the use of the salt as an antiperiodic, by emetics or cathartics, perhaps there is nothing better for the purpose, in ordinary cases, than the same remedy administered in emetic doses, which will usually produce also moderate catharsis.

In most of the cases the remedy was well tolerated by the stomach, nausea or vomiting having occurred in but four instances. Four cases also had moderate alvine evacuations, unattended with pain. There was considerable thirst in every case, but no other unpleasant effects. When given in the above manner (dissolving it in as small a quantity of water as is possible), it is less likely to disturb the stomach than the same or even a less amount would in a larger proportion of the solvent. The taste was objected to by some, while others disliked it much less than quinia.

The following are Dr. Hutchinson's conclusions:—

"1. Although inferior to cinchona and its preparations, it yet forms a *very good substitute* for them in intermittent fever, having failed, as we have elsewhere seen, to produce a speedy suspension of the paroxysms in 31·8 per cent. of the cases only; in a majority of cases, therefore, it may be substituted for quinia.

"2. It may be used instead of, and, indeed, *preferably* to quinia: First, In cases, not unfrequently met with, where the latter remedy is forbidden by the very unpleasant nervous and cerebral symptoms it produces (delirium, tinnitus

aurum, cephalalgia, faintness, &c.), an example of which I have recently seen in the New York Hospital, when sulphate of copper was substituted. Secondly. Where quinia, from frequent repetition, has lost its effect. Thirdly. It is commended on the score of economy, which is a consideration of importance to the poor especially, who are now in a measure debarred from the use of quinia by its high price. And, fourthly. It is always at hand, whilst quinia sometimes cannot be obtained.

"It has been found to be more energetic in curing ague than any of the vegetable or mineral tonics commonly used for that purpose, excepting bark; and should, therefore, be preferred to arsenic, which has been ranked by M. Andral, Prof. Wood, and indeed most other authorities, next in value to quinia. And, moreover, I think arsenic should never be used until after quinia and common salt have failed to do good, on account of its unpleasant, and sometimes disastrous consequences to the general system and stomach, and the increased facilities it affords for using the remedy as a toxicological agent."

(C) CHRONIC DISEASES.

ART. 21.—*The changes produced in the Blood by the administration of Cod-Liver Oil and Cocoa-Nut Oil.* By Dr. THEOPHILUS THOMPSON, F.R.S., Physician to the Consumption Hospital at Brompton.

(*Proceedings of the Royal Society*, April, 1854.)

The author has found, that during the administration of cod-liver oil to phthisical patients their blood grew richer in red corpuscles, and he refers to a previous observation of Dr. Franz Simon to the same effect. The use of almond-oil and of olive-oil was not followed by any remedial effort, but from cocoa-nut oil, results were obtained almost as decided as from the oil of the liver of the cod, and the author believes it may turn out to be a useful substitute. The oil employed was a pure cocoa oleine, obtained by pressure from crude cocoa-nut oil, as expressed in Ceylon and on the Malabar coast from the Copperah or dried cocoa-nut kernel, and refined by being treated with an alkali, and then repeatedly washed with distilled water. It burns with a faint blue flame, showing a comparatively small proportion of carbon, and is undrying. The analysis of the blood was conducted by Mr. Dugald Campbell. The whole quantity abstracted having been weighed, the coagulum was drained on bibulous paper for four or five hours, weighed, and divided into two portions. One portion was weighed, and then dried in a water-oven, to determine the water. The other was macerated in cold water until it became colorless, then moderately dried, and digested with ether and alcohol, to remove fat, and, finally, dried completely, and weighed as fibrin. From the respective weights of the fibrin, and the dry clot, that of the corpuscles was calculated. The following were the results observed in seven different individuals affected with phthisis in different stages of advancement.—

	Red corpuscles.	Fibrin.
First stage, before the use of cod-liver oil,	Female, 129.26 . . .	4.52
First stage, after the use of cod-liver oil,	Male, 116.53 . . .	13.57
First stage, before the use of cod-liver oil,	Female, 136.47 . . .	5.00
First stage, after the use of cod-liver oil,	Male, 141.53 . . .	4.70
Third stage, before the use of cod-liver oil,	Male, 138.74 . . .	2.23
Third stage, after the use of cod-liver oil,	Male, 139.95 . . .	2.31
Third stage, before the use of cocoa-nut oil,	Male, 144.94 . . .	4.61

ART. 22.—*The Urate of Lime in the coats of the veins in cases of Gouty Concretions.* By Dr. J. L. C. SCHROEDER VAN DER KOLK.

(*Nederlandsch Lancet*, July and Aug., 1853; *Dublin Quarterly*, May, 1854.)

It is generally known that in cases of gout in which concretions form, the uric acid is not entirely removed from the system by the kidneys, but that it accumulates as urate of lime in various parts of the body, especially in the fingers. On

examining, after death, the hands of a patient in whom these concretions existed to a great degree, I not only found the tendons of the flexors and extensors of the fingers, as well as the ligaments, deeply coated with urate of lime, but also discovered this salt forming tolerably large knobs under the very skin, so that some of the digital nerves were here and there completely surrounded and perforated by it. But my attention was particularly attracted by observing, after I had dried a portion of the skin in which the arteries and veins had been injected with red and blue, that the latter vessels existed as white ramifications, in consequence of the great quantity of urate of lime which had been deposited in their coats, while the arteries were quite free from any such change. The valves of the veins, too, appeared to have been injured or altered by a deposition of the same salt. Thus, we can scarcely ever succeed in injecting the ramifications of the veins, at least those of the fingers, from the trunk; but in this case, I saw to my surprise, that the veins, especially of the hand, and, in a less degree, those of the fingers, became most finely filled with the blue matter, which was injected into the veins of the forearm.

I am not aware whether this alteration of the veins in gout has been described by any writer. That it is closely connected with absorption appeared to me evident from this, that in the situations where the skin was most penetrated with the urate of lime, the cutaneous and capillary veins were most abundantly studded with the salt in their interior. It thus appears that the urate of lime, having been separated from the blood, the tendons, and the skin of the hand, is in part taken up again by the veins, and so becomes more widely dispersed through the system, while part is at the same time deposited also in the coats of the minutest capillaries, and especially as the valves are simultaneously destroyed, it cannot be altogether without influence on the circulation of the blood.

The violent pain by which this patient had so often been tormented can be easily explained, as the urate of lime had at the same time been deposited around the nerves, and had even penetrated the latter, as was very plainly demonstrable in the nerves of the thumb and index finger, which I examined as to this point, and which appeared somewhat swollen in consequence. It must be left to further investigations to show how far the pain in gout is always to be ascribed to irritation or pricking of the nerves of the great toe in consequence of the deposition of urate of lime between the sheaths of the nerves.

ART. 23.—*An Example of the concurrent development of Cancer and Tubercle.*
By MR. SIBLEY, Registrar of the Middlesex Hospital.

(*Transactions of the Medical and Chir. Society*, vol. xxxvii. 1854.)

This was the case of a woman, æt. 48, admitted into the Middlesex hospital, with a sloughing cancerous sore in the left breast; there was a hard tumor on the inner side of the size of an orange, and several small nodules of cancer at its edges. In the course of five days after her admission nearly the whole remaining portion of the tumor sloughed away, leaving a clean-looking surface, which immediately began to cicatrize. Subsequently, pulmonary symptoms became developed, profuse expectoration followed, and she sank and died three months after her admission. On making a section of the structure of the left breast, it was seen to be an extremely dense form of infiltrating scirrhus, traces of breast tissue, such as ducts, being very apparent. In the thorax, large masses of tuberculous lung tissue were observed. Tubercular cavities existed in the apices of both lungs; a part of the lower lobe of the right lung was in a state of gray hepatisation, and the bronchial tubes were thickened and dilated. In the left pleura were numerous crude tubercles. On examining the dates of this case, positive proof was obtained that a cancerous tumor was increasing in the breast simultaneously with the increase of tubercular disease of the lungs, and that for a period of at least six weeks. The author thinks that a single instance of the concurrent existence of these diseases was sufficient to destroy the doctrine of the absolute incompatibility of tubercle and cancer with each other.

ART. 24.—*The Lardaceous or Cholesterin Diseases.* By DR. MECKEL.

(Medico-Chir. Review, Oct., 1854.)

The following information respecting the *chemical properties* of this disease, is from an article in the *Annalen des Charité Krankenhauses zu Berlin*, Vierter Jahrgang, Heft 2, S. 264. The reviewer is Dr. Parkes:—

"A fresh lardaceous liver, spleen, or kidney, yields to hot or boiling water a large quantity of a substance which has an acid reaction, is tasteless, and is soluble in water, with which it can be made to froth; it does not pass over when distilled with water; it does not hinder albuminous solutions from passing through membranes saturated with it; caustic potash makes its solution clearer; hydrochloric acid decomposes it, and brings into view fat drops, which form on the surface.

"The lardaceous organ yields to cold alcohol a yellow-brown crystalline oily pulp, to hot alcohol a larger quantity of similar substance. Ether extracts a small quantity of similar substance. Meckel considers this substance to be a soap, a combination of bases (the exact nature of which he leaves undetermined), with an excess of fatty acid.

"When the solution is evaporated, the following *microscopic* appearances are seen. It should be mentioned that there is never any polarization of the light (absence of sugar):—

"1. Pure almost colorless oil-drops, colored yellow or brown by iodine, than made darker by sulphuric acid, without any play of color.

"2. Similar oil-drops, made of a *dark blue-green* color by iodine and sulphuric acid.

"3. Oil-drops, simple, or in concentric layers, colored at first *beautifully violet*, then blue, then dark-brown, by iodine and sulphuric acid.

"4. Aggregated nodules and various extraordinary forms of colorless fat, partly in extremely fine stratified drops, partly in long stratified, straight, or winding cylinders, with double outlines, exactly like nerve-tubes; partly appearing as simple drops, with, perhaps, inclosed *water-drops and crystals*. All these are scarcely colored by iodine, and are rendered by *sulphuric acid entirely colorless*.

"5. Needle-form crystals, single and in bundles, not colored by iodine; rendered by sulphuric acid *beautifully blue and green*.

"6. Cholesterin crystals, not colored directly by iodine, but exhibiting after the application of iodine and of sulphuric acid a beautiful play of colors, first violet, then for days indigo and cerulean blue, then later a beautiful emerald green.

"Such a chaos of substances is indicated in these reactions, that a perfect isolation and description of them is not at present to be hoped for; but Meckel believes that the reactions with iodine and sulphuric acid of the fresh organ, and not of the extract, are sufficiently precise to enable us to distinguish at least four substances, which he calls the *speck-roth*, *speck-violet*, *cholesterin*, and *speck-kalk*. The literal translation of these terms would be 'bacon-red, bacon-violet, cholesterine, and bacon-chalk;' but as the genius of our language is little adapted for the translation of such Germanism, we shall not attempt to render them literally.

"1. The lardaceous substance, which gives the *red* reaction (*speck-roth*), is the most abundant and widest spread. It is colorless, semi-transparent, and, when in large quantity, presents the appearance of a jelly-like, firm, gray infiltration, without evident oil-drops. It is, according to Meckel, a peculiar double body, composed of coagulated albumen and a fat. This substance can be always recognized by the simple iodine reaction, which gives a yellow-red color, distinct from the violet-red of dextrin.

"2. The lardaceous substance with the violet reaction (*speck-violet*) is a firmer, denser substance, in much smaller quantity than the former. It is probably a combination of cholesterin and other fats. It seems to occur in the normal state in the *corpora amylacea*. In disease it is often found in the little arteries, especially in the Malpighian bodies in the lardaceous kidney. To produce the violet reaction, sulphuric acid must be added after the iodine.

"3. Pure isolated cholesterin is seldom found in lardaceous exudation. It is present without the two former substances in the large arteries of those affected with lardaceous disease. Meckel found it once with the substance with red reaction (speck-roth) in the cerebral vessels of a lunatic.

"4. The lardaceous substance with calcareous matter is found only in the kidney, and here only in small quantity. It is greatest in quantity in the Malpighian corpuscles.

"The exact nature of the peculiar fat which plays so important a part in the composition of all these compounds is unknown. No other fat shows this reaction with iodine. The author thinks, it cannot be related to starch and dextrin. The common kinds of fat form, he suggests, the basis of the lardaceous fat, and then, through the influences of bases, peculiar changes occur, which at first produce soaps of ammonia and other alkalies, and end at last in the production of cholesterin, and of compounds of chalk with the lardaceous exudation."

Dr. Parker adds, at another page:—

"If it really appear that the so-called lardaceous substance is, within certain limits, a stable chemical compound,—and if it can be so easily distinguished by the test with iodine and sulphuric acid,—a new path of great interest is opened for pathologists. We must confess, however, that Meckel's chemistry appears to us rather rude and unsatisfactory, and we are not at all convinced that he has made out the propriety of the term 'cholesterin disease.' Still, our previous knowledge of the lardaceous affection leads us to think that many of his facts are correct, and some observations made in this country lend, we think, considerable support to some of his views."

Dr. Parkes refers to some recent investigations by Drs. Gairdner and Sanders of Edinburgh, which investigations were indeed contemporaneous with those of Dr. Meckel. (See *Edinburgh Monthly Journal*, Feb., p. 186, and May, p. 393.)

ART. 25.—*On Tubercle.* By Dr. MANDL.

(*Archiv Gén. Méd.*, Mars, Avril; and *Medico-Chir. Rev.*, Oct., 1854.)

M. Mandl has published two interesting papers on the microscopic examination of tubercle, in which he enters pretty fully into the literature of the subject. He denies altogether that tubercle presents any specific morphologic elements. He states: 1. The tuberculous substance is an amorphous matter strewed with fatty molecules; it is finely granular at first, then diffuent. It infiltrates the elements of tissues, and solidifies in the interstices. The fragments of this amorphous substance, presenting neither determinate form nor size, are analogous to those of all other amorphous exudations. There are no special tubercle-globules or corpuscles; there are no characteristic elements. 2. The tubercular substance, being an amorphous matter, cannot increase and develop. Tubercles grow only by juxtaposition—i. e. by fresh exudations. This is a proof the more that the progress of the disease is dependent on an incessantly active cause, which cause must be got rid of, if we would root out the tuberculization. 3. Softening of tubercle is due to a fatty degeneration, which can declare itself before products of inflammation, such as pus and "inflammatory globules," show themselves. 4. This degeneration is a certain proof that tubercle cannot organize itself, as fatty degeneration occurs only in tissues, the nutrition of which is suspended. 5. By means of the fatty degeneration and the products of inflammation, which are joined to it at a later period, tubercle is completely eliminated. 6. If one is permitted to draw a therapeutical inference from these facts, it is, that attention should be directed, first to the cause, and secondly to the modifications which the tubercle undergoes—i. e. the natural course of the disease.

ART. 26.—*On Syphilitic Eruptions, Ulcerations, and other secondary symptoms, with especial reference to the use and abuse of Mercury.* By Mr. THOMAS HUNT, Surgeon to the Western Dispensary for Diseases of the Skin.

(*Pamphlet*, 12mo., London, Churchill, pp. 95, 2d Ed.)

Mr. Hunt regards mercury, properly given, as the only cure for syphilis, and improperly given, as one main cause of the gravity and universality of the dis-

ease. He denies that mercury is capable of originating disease similar in character to the secondary forms of syphilis: and holds, that in cases where it is supposed to have done so, the drug has acted as a poison, and allowed latent syphilis to come into play by counteracting the *vis medicatrix naturæ*. The moment the mercury begins to act as an irritant, that moment it begins to be a poison to the system at large; and so beginning, the virus takes the opportunity to re-establish its workings.

"So long as the general system does not suffer from the mercurial poison, it will remain capable of taking advantage of the special effects of the mineral as exerted on the morbid condition of the blood; but when the gums become sore, or the bowels disturbed, there is here a new source of irritation and debility. The animal poison may have been in part neutralized; but, if the strength of the system be sacrificed to the action of the mineral poison, it will no longer be able to contend with the original disease, which, although less virulent in its nature, may become more destructive in its effects. It often happens that syphilitic symptoms will yield, under a course of mercury, up to a certain point; the disease will then become stationary, and, if the medicine is persevered in, the symptoms will become aggravated; sores which were healing will again ulcerate, dissipated eruptions will re-appear, and the patient may even fall into a worse condition than before. And yet the disease is as purely syphilitic as ever it was, and as ready to yield to mercury, if rightly administered; but the system being for a time deranged by its excessive administration, the *vis medicatrix naturæ* is paralysed, and the disease is triumphant." (Pp. 34-35.)

Apart from theory, then, the case is practically this. A continued course of mercury generally exerts a salutary influence over syphilitic symptoms; but only for a time. It then does harm. Whatever the reason of this, the practical conclusion is plain, namely, to desist, and not to renew the treatment until the system has recovered from this shock, if such renewal be necessary. This desisting, and renewing, if necessary, is the principle of Mr Hunt's practice. The action of mercury is looked upon as sudden and transient—as that of a shock through the organic nerves. This shock, once produced—and this point is to be determined by the appearance of signs of improvement in the eruption or ulceration,—and the mercury is to be immediately discontinued, and tonics and aperients given in its stead. If the disease returns, mercury is again to be had recourse to, and again abandoned for tonics and aperients as soon as the shock is produced. "An improvement in the disease, ever so slight, be it real and satisfactory, should be regarded as the signal for suspending the mercury." (P. 41.) And so on, again and again, if necessary; each course being so managed as to arrest disease without disturbing the general health, and each course being made more energetic than its predecessor in consequence of the growing tolerance of mercury in the system.

The exposition of this principle of treatment is preceded by some remarks on the diagnosis and prognosis of the disease, and succeeded by a number of illustrative cases; and the whole forms a pamphlet which ought to be well read and well pondered over.

ART. 27.—*The truces of Constitutional Syphilis.* By M. GAMBERINI.

(*Bull. delle Sci. Med. di Bologna*, vol. xxiii., 1853; and *Dublin Quarterly*, May, 1854.)

The substance of M. Gamberini's essay upon this subject is reduced to the following heads:—

"1 The syphilitic taint, in addition to the intrinsic differences which distinguish it from other contagious diseases, possesses that which I denominate *truce*, or temporary cessation of the visible and sensible phenomena of the malady.

"2 The truce takes place either spontaneously, that is, as it were, by a peculiar law of constitutional syphilis, or artificially, from the operation of therapeutic means.

"3. The occurrence of the truce has induced a belief in the therapeutic value of the methods of treatment which exclude mercury, which latter medicine has been shown by experience to be the true remedy for syphilis.

"4. These truces, whether natural or artificial, lead, in a period of uncertain duration, to cure.

"5. The cure of confirmed syphilis is accomplished only by means of the truces; it therefore requires an indefinite time for its accomplishment, and demands a proportionally vigorous and repeated treatment."

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 28.—*Opium in Incipient Psychological Disturbances.* By Dr. ERLÉNMEYER.

(*American Medical Monthly*, 1854; and *Northwestern Medical and Surgical Journal*, May, 1854.)

The interest and importance of Dr. Erlenmeyer's remarks will be greatly increased by reading them in connection with a paper, by Dr. Oliver, on the use of large doses of opium in mania (*v. Abstract*, vol. XVIII), and with some remarks by Dr. George Johnson, on opium as a means of preventing and removing some of the ill effects of overwork and anxiety (*v. Abstract*, vol. XIX). Dr. Erlenmeyer writes:—

"The time is not long gone by when, in our best insane hospitals, the use of narcotics, in the treatment of psychical diseases, was wholly interdicted. This view was first changed by the recommendation of opium by Dr. Herman Engelken; and this remedy then began occasionally to be tried, and indeed, in somewhat larger doses than usual. The excellent result which followed this practice in certain cases, continually encouraged to further trials; so that now it is considered indispensable by our best physicians.

"The form of psychical disturbance in which opium succeeds best, is melancholy, in its various shades. It animates the patient, exalts innervation, and gives to the despairing sufferer new courage. I have tested this remedy in private practice. With few exceptions, mental disturbances, in their first stage, accost us as a melancholic temper, so that these cases also appear appropriate for the administration of opium. Upon different occasions, when I have been called to the treatment of commencing mental disturbance, I have, therefore, decided upon the exhibition of opium, and have seen really surprising results from it, since many patients have not only been temporarily improved thereby, but for the most part have been completely cured.

"Opium, administered in large doses, operates, in many respects, entirely different from small doses. It produces no congestion of the brain; it does not induce constipation—on the contrary, I have, in several cases, observed severe diarrhœa following the use of this remedy, which required its discontinuance. I have, in all cases in which constipation followed the exhibition of small doses at the commencement, seen this disappear upon its continued and increased administration. The nutrition of the patient is very quickly increased, and I have repeatedly seen the weight of the body gain from two to three pounds a week. The courage of the patient, which in melancholy, is so depressed, becomes exalted; the constant complaints and lamentations are silenced; in short, the patient in a brief time is both corporeally and mentally changed.

"In the hospitals, the exhibition of opium has been carried to six grains at a dose; and several physicians, especially those who first commended the practice, have carried it still further, without observing any injurious effects. At the commencement of psychical disturbances, such doses, though they may be well borne, are not at once necessary; and the exhibition of from two to four grains twice a day will suffice completely to allay incipient melancholy.

"The best form of opium is the powder, as such, or made into pills; whilst the tinctures and alkaloids have not been so efficient in my hands.

"Whilst I now proceed to the indications and contra indications, I should ob-

serve, in the first place, that the data brought forward are imperfect; and that I here mostly appeal to symptoms, will be excused by the reader, who knows full well that the diagnosis of the condition lying at the basis of mental maladies is infinitely difficult.

"The highest indication for the exhibition of opium is the hyperæsthesia, which presents itself at the commencement of psychical disturbances in so manifold a manner. It matters not whether this hyperæsthesia be of peripheric or of central origin; nor is it of any consequence in which division of nerves it occurs. The excellent effect of opium in pure neuralgias, should have long since led to its administration in hyperæsthesia of other nerves; and would certainly have done so, had not various fears, which were based more upon theory than practice, deterred therefrom. That opium is not so dangerous a remedy as it is generally represented in the manuals of *Materia Medica*, I have thoroughly convinced myself; and many of our German physicians, at the head of insane hospitals, will agree with me, whose authority must be acknowledged by every one.

"Almost two-thirds of all psychical maladies commence as hyperæsthesiæ. One of the most common is the hyperæsthesia of the *Nervus Vagus*, with greater or less participation of the sympathetic, in the well-known form of præcordial distress, which Fleming has so well described, and which, together with headache, he enumerates as the most constant symptoms of psychical disturbances. I have observed the præcordial distress in very different constitutions, as well of central as of peripheric origin, and always perceived good effects from opium.

"The result is surprising when this præcordial distress is connected with psychical hyperæsthesia, a condition which is usually designated as *hypochondriacal melancholy*. These patients are fearful tormenting spirits to the physician, because they cannot be dissuaded from their hypochondriacal ideas by any process of reasoning.

"A more numerous class of hyperæsthesiæ, which occur mostly at the commencement of psychical diseases, are the sensual. It is wonderful to what perversities patients are often led by this kind of alienation of the nerves of sense. A great part of the aversion to food occurring at the beginning of mental maladies, depends upon the hyperæsthesia of the glosso-pharyngeal or olfactory nerve. In food prepared in the ordinary manner, the patients smell and taste all possible singularities; when there is also simultaneously hyperæsthesia of other nerves, often of the vagus, they are sorrowful, anxious, distrustful, smell poison in their food, which increases and justifies their anxiety, and they begin to resist nourishment. Another complaint which we frequently meet with in patients of this kind, is that those about them know their thoughts. I have found this in many cases, where there was as yet no particular mental derangement, it is evidently a minor degree of hallucination of hearing, induced by hyperæsthesia of the acoustic nerve. Such a condition very commonly precedes the outbreak of peculiar hallucinations, as I have repeatedly observed in a patient who suffers periodically from hallucinations, of hearing. A short time before the particular hallucinations, he has the sensation as if his thoughts were expressed by those about him, only that he does not clearly hear the particular words, as is the case upon the full development of the hallucination.

"Most of the conditions which occur at beginning of mental diseases, may be referred to these hyperæsthesiæ, which are usually designated by all sorts of other names—*nervous irritability*, *exalted nervousity*, *nervous derangement*, &c.

"When these hyperæsthesiæ exist in the manner just described, independent of any organic disease of the brain, manifested by anæsthesia, paralysis, &c., without the existence of any more serious affections of other important organs, of the heart, the lungs, the digestive apparatus, &c., which must be looked upon as the cause of the incipient mental disturbance, opium will do excellent service, and if it does not completely and permanently cure it still effects an important alleviation; but in the last-mentioned cases it does no good, and often may do harm.

"There is also another contra-indication, which is not, however, very frequently in the way; it is vomiting occurring after the administration of small doses. We need not be much disturbed, nevertheless, on this account, since no

greater disadvantage is to be feared than that opium will do no good. I must especially insist, that a coated tongue and other gastric symptoms should not deter us from the use of opium, since this is observed in almost all cases of psychical disease, immediately at the opening of the scene, and very commonly occurring as the first expression of alienated nervous function. Opium allays these so-called gastric symptoms generally very quickly, enlivens the appetite, and stimulates nutrition better than all stomachics. There are individuals in whom there exists an idiosyncrasy against the smallest doses of this remedy, who become thereby more excited, in whom a new train of symptoms is induced, as palpitation of the heart, ringing in the ears, greater disquiet, complete sleeplessness; in these persons we should desist at once from the farther use of opium.

"Opium does excellent service, not only in melancholy, but in all other forms of psychical alteration which depend upon hyperæsthesia, if it is employed in the first stage of the difficulty; whilst in all psychoses of a torpid character, it produces little or no benefit."

ART. 29.—*The Pathology of Delirium Tremens, and its treatment without stimuli or opiates.* By Dr. PEDDIE, of Edinburgh.

(*Edin. Monthly Journal*, June, 1854.)

Dr. Peddie holds that delirium tremens is a form of *alcoholic poisoning*—or an alcoholism—that it is specific in its nature, and that it is analogous to plumbism, mercurialism, ergotism, or narcotism; and he considers, as entirely erroneous, the opinion that the privation of an accustomed stimulus is the exciting cause of the malady.

"Analogy," he says, "will not bear out this theory. Mercurial fumes, or the oxides of mercury, when long inhaled or absorbed into the body, as in the case of gilders, quicksilver-miners, and others, in the course of time produce an attack of shaking paralysis—the *tremblement mercurial* of the French pathologists; but will it be averred that the workmen long exposed are more likely to be affected with tremors, if removed from this poisonous atmosphere and occupation, than if they continued at their work? The reverse is well known to be the fact, not only in the case of such artisans, but of those also who are beginning to suffer in a somewhat similar way from lead poisoning. In both affections, when the symptoms are recent, a cure can only be effected by removal from the injurious occupation; otherwise the symptoms deepen with hourly increasing rapidity, until tremors are succeeded by sleeplessness, delirium, and ultimately coma."

The history of delirium tremens, in Dr. Peddie's opinion, is equally opposed to the idea that the disease is caused by the privation of a stimulus.

In a word, Dr. Peddie holds that the *exciting* as well as the predisposing cause is the habitual abuse of intoxicating liquors; that these produce a specific form of irritation of the brain and membranes, the tendency of which is to arachnoid inflammation; that the chief phenomena attending this disease are invariably uniform in their character, and distinguish it from every other affection; that the occurrence of the salutary sleep is the normal termination of the paroxysm, indicating diminished activity of the cerebral circulation and functions, and the commencement of convalescence; that the cordial and opiate treatment is generally pernicious, and frequently dangerous; and that the main indications of cure are, to reduce the cerebral excitement by a moderate but decided and steady course of antimony, or other agent capable of exerting a somewhat similar influence, and thus favor—not force—the wished-for sleep, to soothe the feelings and dissipate the fears of the affected by kind and judicious superintendence, and the permission of light and liberty, and to support the physical strength by a moderate allowance of animal nourishment.

Dr. Peddie's experience in the treatment of delirium tremens has been considerable. He has treated during the last ten years, "upwards of eighty cases of the genuine disease, many of them severe ones, with uniform success;" and in the paper under notice he cites 6 of these cases in illustration. Of these the subjoined will serve as an example:—

CASE.—Mr. B., *æt.* 48, spirit dealer. Long an habitual drinker. His average daily amount for some time had been four gills of whiskey and one bottle of beer, taken from early in the morning until late at night; and there had been no diminution in the quantity previous to the present seizure. Had slept very little for a week, and none at all on the last two nights, and for some days was very tremulous, and quite unable to transact business.

1st day's visit, 3 P.M.—Was very distressed and agitated during the last night,—walking constantly up and down through the house, terrified with visions; had his last glass of whiskey at 11 this forenoon. Pulse 104, small; skin cool and clammy, great muscular tremor, tongue foul, eyes yellow and lustreless, mind constantly occupied with false and horrific impressions of all kinds, although in no very definite form but can answer a question put directly to him. *Instructions*—Plenty of light; complete liberty to promenade through the house, the doors and windows being secured: and two intelligent men to attend and humor all his fancies. To have a wine-glassful of the following mixture every two hours—*R* Tart. Ant. gr. iv, Infusi Quassia et Aqua $\bar{a}\bar{a}$ $\bar{3}\bar{x}$, whether it caused sickness or not, and only to be discontinued if he should go to sleep. Beef tea and coffee with milk to be given occasionally. *8 P.M.*—Took one glass of the mixture at 3.30 P.M., which caused vomiting of a quantity of bilious matter; one at 5 o'clock, which was followed soon after by a loose alvine evacuation; and one at 7 o'clock. He is at present pale and perspiring, very tremulous and restless—in constant apprehension of rats and strange men; quite sensible when spoken to, pulse 110. To have the mixture only every third hour. Beef tea, &c.

2d day, 10.30 A.M.—Pulse 106, very small; perspiring freely; face very pale; urine scanty and high colored; great tremulousness. He can put out his tongue, or rise up, or sit down when desired, but that is nearly the amount of his intelligence. He is in constant motion, not rapid or boisterous, but chiefly busy in arranging bed-clothes, carpets, small articles of furniture, and sweeping imaginary crumbs from off the table. Had never been in bed, and had taken only three doses of the mixture since I saw him last. Took a glass from me supposing it to be pale brandy—no sense of taste. The mixture to be continued regularly. Was seen by my friend Dr. Cappie at 3 P.M., and again at 9 P.M., who found him much the same as when last reported. Had been purged several times. Antimony, &c., continued.

3d day, 2 P.M.—In bed, sound asleep; pulse 84, of good character; a good deal of subsultus tendinum, skin very moist; paleness of countenance gone. It was stated that he had appeared very much exhausted last night about 12 o'clock; was then got to bed, fell asleep almost immediately, and did not awake until 7 this morning. When awake he was not quite sensible, but took some bread, coffee and milk, and fell asleep again. Continued so for other two hours, and was then perfectly coherent, but not inclined to speak. He had some more breakfast and an egg, and went to sleep again. An hour ago he was awake for a few minutes, and took some beef tea. The antimony had been given once this morning:—to be discontinued. Nourishment only to be offered when he awakes.

4th day.—Found him quite well; mind perfectly clear, and had been able to read a little.

ART. 30.—On "Coup de Soleil." By Dr. H. S. SWIFT.

(*New York Journal of Medicine*, July, 1854.)

According to Dr. Swift's paper, deaths from this cause have been very common in New York during the past year. Of these cases the greater number exhibited no signs of cerebral congestion or apoplexy, death having happened from simple nervous prostration, and for this reason he wishes to distinguish them from true cases of "coup de soleil," which cases he regards as cases of cerebral apoplexy produced by insolation. In his opinion, the deaths in question were deaths which owed their origin to *exhaustion from heat*. There appears, however, to be unnecessary refinement in this distinction, and, so far as the term goes, there can be no reason why the coup of the sun should not cause death in

both ways—by nervous prostration and by apoplexy. *Coup*, as a word, has no connection with apoplexy.

Dr. Swift considers that a majority of the cases reported as deaths from “drinking cold water” are really occasioned by “solar exhaustion.”

Dr. Swift states his experience of “*coup de soleil*” as follows:—

“The premonitory symptoms are usually slight, and of short duration. A laborer may, perhaps, have been employed until a late hour the previous night, and the next morning complains of a slight headache and a general feeling of languor. He takes his breakfast with less relish than usual, but resumes his ordinary duties. But, in the great majority of cases, even these slight symptoms are wanting. They are suddenly seized, while in the performance of their labors with pain in the head, and a sense of fulness and oppression in the epigastrium, occasionally nausea and vomiting, general feeling of weakness, especially of the lower extremities, vertigo, dimness of vision, and insensibility. Surrounding objects appear of uniform color. In a great majority of cases, this was, so far as could be ascertained, blue or purple. In one instance, everything appeared red; in another, green; and in another white. One stated that objects retained their natural color, but expressed them as being very beautiful, while to another everything appeared greatly magnified.

“This may be regarded as the first stage of the disease. It is usually of short duration. In the milder forms of the disease, the stupor is only momentary. The patient is at first, perhaps, aroused with difficulty, but he gradually regains his consciousness. If, however, the attack is severe, the patient shortly passes into a state of coma. The skin is hot and pungent to the touch, and by actual experiment, according to the observations of Dr. Dowler, the temperature is elevated to 112° Fahr. The pupils are dilated and insensible to light; the breathing hurried and labored; the pulse is sometimes slow and full—sometimes frequent and feeble, though the action of the heart may continue inordinately strong up to the last moment of life.

“In the third stage, the symptoms are those of collapse. The pulse becomes more frequent and feeble; the respiration, which at first was hurried and labored, now becomes stertorous, and accompanied with sighing and moaning; the skin cool, or the surface of the body may retain its natural temperature, though the head may be hot; the sphincters become relaxed; extremities cold; the countenance swollen and livid; the pupils may be dilated, but are often firmly contracted; tracheal râles appear; either the patient is quiet, as if completely paralysed, or else convulsions, often violent in character, supervene, and he dies suddenly, or he may remain in this condition for several hours.

“The first stage corresponds very nearly to that condition described by Southern writers as ‘solar exhaustion.’ Dr. Dowler makes a distinction between this ‘solar exhaustion’ (the *coup de soleil* of northern latitudes) and what he calls ‘solar asphyxia.’ The former he regards as ‘a mere fainting, in which the face is pale, skin cool, or not above the natural standard, while, in the latter, the skin is burning hot, face flushed, and the mind and body are utterly insensible to impressions.’ It runs its course rapidly, and often proves fatal in thirty minutes. Dr. Cartwright says, the cases of ‘asphyxia are often incurable from falling into an *incurable* state before medical aid can be obtained;’ while those of exhaustion simply, if properly treated, will yield as readily as a case of common intermittent, but are almost as fatal as ‘solar asphyxia,’ if improperly treated.

“The second and third stages, described in the progress of the disease, are so intimately connected that it may seem an unnecessary division: but it is more convenient to regard them separately. They differ usually in the mode of attack, and for this reason some have regarded them as a distinct condition. The stage of collapse is most frequently noticed in those who are seized late in the afternoon, ‘without the signs of apoplexy,’ after exposure to the heat and fatigue of the day. But the same condition may occur in those who have been seized suddenly ‘with the signs of apoplexy,’ and yet pathologically there *may* be no difference.

“Of 60 cases which came under my observation during the past year, 44 were insensible at the time of admission, and 16 were either stupid or sensible. The pupils were dilated in 30, contracted in 19, and natural in 11. The temperature

of the body was hot in 34, warm or natural in 14, and cool in 12; while that of the head was elevated in 31, warm in 11, and cool in 18.

"The respiration was hurried in 44; the pulse was uniformly accelerated, varying from 100 to 160, and even more per minute. Convulsions were present in 24, delirium was noticed in only a few. 52 of the patients were males. The average duration of the fatal cases was about four hours.

"The time of the attack in 3 cases was between 8 and 11 A. M.; in 40 cases was between 11 A. M. and 4 P. M. and in 17 cases was between 4 and 9 P. M.

"Convalescence is usually speedy. After the severity of the disease has passed, and reaction is fully established, varying from a few minutes to five or six hours, the patient sinks into a deep slumber, and awakes somewhat exhausted, and the cerebral functions disturbed; but this soon disappears. Two patients only complained of severe pain in the head, and at intervals exhibited great forgetfulness for nearly a week; and one was occasionally delirious.

"A case was reported to me in which delirium supervened, resembling that of delirium tremens. I cannot conceive that such a condition may exist, but this patient was intemperate, and had been drinking to excess previous to the attack.

"Dr. Pepper reports 20 cases, 10 of which died, and 3 resulted in insanity. This termination was not noticed in over 100 cases received at the New York hospital. In the reports of lunatic asylums, however, few cases of insanity are referable to an attack of *coup de soleil*. One patient was delirious, and with the greatest difficulty restrained.

"The statistical reports are too inaccurate to furnish any satisfactory data for the mortality of this disease, as no attempt has been made in the reports to distinguish it from 'cerebral apoplexy;' but this latter class is, I believe, less frequently met with than was formerly supposed; and that *their* number will somewhat diminish as the facilities for *post-mortem* examinations are furnished, and that by far the greater number of cases included under the head of *coup de soleil* are nothing more than 'nervous prostration.' About one half of the cases are usually fatal. The mortality of the past year will, however, be above this estimate.

"The total number of cases admitted to this hospital since 1845, is 150, of which 78 died. The mortality of the cases admitted in 1853 is 33 in 67.

"The mortality of hospital practice must be greater than that in private, as very many were admitted in a moribund condition, and died before any treatment could be adopted, while others were rendered hopeless by being brought a long distance, several hours after the attack.

"The prognosis will depend on the stage of the disease. In the first stage, the prognosis is usually favorable, much, however, will depend upon the treatment adopted. The symptoms indicating collapse are always unfavorable.

"In 33 fatal cases, the pupils were contracted in 20, moderately dilated in 7, and markedly so in 6; while in the successful ones, the pupils were dilated in 19, and nearly natural in 15. No case recovered in which the pupils were contracted. Mere stertorous breathing is not necessarily fatal, but after the respiration becomes *sighing* and *moaning*, the prognosis is very unfavorable; only two patients recovered after this character of the breathing was present.

"To these two symptoms—the condition of the pupil and the character of the respiration—I attach much value, and if other observations shall confirm this, they will furnish the most reliable basis for prognosis.

"The respiration was sighing or moaning in 31 of the 33 fatal cases, convulsions were noticed in 24. This is a grave symptom, but 6 recovered after they were present. The pulse alone is no safe criterion of the actual condition of the patient, for it may continue of fair strength throughout the whole course of the disease, with no perceptible alteration either in force or frequency, though the patient may be under the free use of stimulants. This will frequently surprise those who are unaccustomed to observe it.

"A fatal relapse occurred in one instance. This patient was attacked suddenly while at his work, and lost all consciousness. As soon as he had sufficiently recovered, he walked a long distance to the hospital, exposed to the direct influence of the sun. This exertion, combined with his previous prostrated condition, probably induced another attack. He again partially conva-

lesced, but immediately sank into a comatose condition, from which he did not rally.

"The pathology of this disease is uncertain. We have as yet failed to discover any satisfactory lesion to account for the phenomena noticed before death. It is now, however, generally admitted to be merely 'exhaustion' produced by fatigue—either in the sun, or, less frequently, in a close and over-heated apartment.

"The post-mortem appearances, though of a negative character, are precisely opposite those found in 'congestion' of the brain or apoplexy produced by insolation—in other words, *coup de soleil*. And it is of great importance that this relation should be correctly understood, for they obviously require an opposite course of treatment. Unfortunately these two conditions are too indiscriminately called *coup de soleil*. Our nomenclature, in this respect, is imperfect, and calculated to mislead those who are unaccustomed to observe it. But we must not infer, simply because a disease has been erroneously called *coup de soleil*, that we have apoplexy to contend with. 'It is debility we have to meet, and not repletion.' Depletion, which is essential in the one, is almost necessarily fatal in the other."

ART. 31.—*Injury to the anterior part of the Brain, without loss of Speech.*

By. M. DECHANGE.

(*Archiv Belges de Méd. Milit.*, March, 1854; and *Gaz. Hebdom.*, July 7, 1854.)

'This case derives its interest from the contradiction which it affords to a well-known phrenological dogma:—

'CASE.—A young man struck the back of his head violently against the ground by falling from a ladder into a cellar. There was a slight scalp wound in this part. He was brought into ——— hospital eight days afterwards, complaining of acute pain at the back of his head, and being somewhat incoherent. The sensibility and mobility of the limbs were unimpaired. The urine and the feces passed involuntarily. *The speech was unaffected, articulation perfectly clear, and the movement of the tongue perfectly free.* In the same evening, the respiration became embarrassed, and death happened suddenly. On examination, there were found; 1st, a fracture of the occipital bone extending into the posterior condyloid foramen on the left side; 2d, an effusion of blood under the membranes in the region corresponding to the fracture; and 3d, "*un ramollissement rouge très avancé des deux lobes antérieurs*" of the brain, containing small clots of blood. The case is not given more circumstantially than is here reported.

ART. 32.—*On chronic and periodical Headache.* By Dr. SIEVEKING, Assistant Physician to St. Mary's Hospital.

(*Medical Times and Gazette*, Aug. 12, 19, and 26, 1854.)

After adverting to the physiology and anatomy of the circulation in the brain, Dr. Sieveking enters into the consideration of the *causa proxima* of cephalalgia, which he considers to be one of the following conditions, or a complication of one of the two former conditions with the third: a congestive state, an anæmic condition, and a vitiated constitution of the blood. Whatever the predisposing or exciting causes of an individual case may be, it is of primary importance to determine which of these conditions is present.

In doubtful cases Dr. Sieveking says, "I have myself found dry-cupping a valuable aid, not only in the treatment of headaches, of which more hereafter; but it has assisted me materially in determining in doubtful cases whether headache was connected with repletion or emptiness of the intra-cranial vessels. When applied to the nape of the neck, it will, in the one case, afford more or less immediate relief; in the other, it will increase the pain, and produce prostration and syncope. The inference from which is, that, in the former instance, the headache will be benefited by diminishing the contents of the vessels; in the latter by increasing their amount. The inconvenience of not always having a cupper at hand, as well as the fear which the patients generally entertain of

anything resembling an operative proceeding, has induced me to have a set of cupping-glasses fitted with a valvular apparatus of a very simple kind, by means of which and an exhausting syringe, I can rapidly produce a larger amount of rarefaction than can well be obtained by the ordinary proceeding. It has the advantages of being capable of exact regulation, and not of being accompanied by a flame, while it is very portable."

About the ratio in which cephalalgia occurs in organic affections of the intra-cranial contents, as disclosed after death, Dr. Sieveking says:—

"Cephalalgia is a symptom of less frequent occurrence than we might have anticipated, a fact which negatively demonstrates the necessity of additional care in attending to other signs indicating disturbance of the nervous centres. The analysis of authentic cases of this description also shows that there is no definite relation, except in the instance of the cerebellum, between the site of the lesion and the site of the previous pain. With a view to determining these points, I have gone through the cases recorded in Dr. Abercrombie's work on diseases of the brain, and Andral's fifth volume of that monument of talent, industry, and logical induction, the *Clinique Médicale*. The results of the experience of the British and the French physician are numerically wider apart than we should have expected, though they coincide in proving that undoubted cerebral mischief frequently is unassociated with cephalalgia.

"We take first—by the laws of courtesy—the foreign author. He gives 108 cases in which death was manifestly due to intra-cranial disease, as confirmed by *post-mortem* examination, or in which, though the fatal issue was immediately due to other causes, the cadaveric section demonstrated coincident cerebral disorganization. Of these there were:—

	Cases.	With Cephalalgia.	Without Cephalalgia.	Doubtful.
*Cerebral Disease,	94	38	54	2
Diseases of Cerebellum,	14	7	7	0
Total,	108	45	61	2

Or if we divide the total number of cases into two great classes of apoplectic and non-apoplectic cases, taking cerebrum and cerebellum together, the number stand thus:—

	With Cephalalgia.	Without Cephalalgia.	Doubtful.
Apoplectic cases,	6	21	0
Non-apoplectic cases,	39	40	2
Total as above,	45	61	2

"According to the observations of this author, therefore, the ratio in which headache accompanies intra-cranial mischief is as 45 to 61, or nearly as two to three; if we subtract the apoplectic cases, in which this symptom is comparatively of less import, we obtain a ratio of 39 to 40, in other words, the frequency and absence of headache are almost equal, or, to use a sporting phrase, it is an even chance whether the intra-cranial disease is or is not accompanied by cephalalgia.

"The analysis of Dr Abercrombie's 139 histories of inter-cranial diseases yields the results exhibited in the following table:—

	Apoplectic Cases.	Non Apoplectic Cases.	Total.
Cephalalgia positively stated,	18	74	92
" absent, or not mentioned,	23	15	38
" doubtful (in children), or the history imperfect,	2	7	9
	43	96	139

Here, then, taking the various affections together, we find the ratio in which headache is a concomitant of organic disease of the brain as 92 to 38, or nearly as 3 to 1; while, by eliminating the apoplectic cases, we obtain the still higher ratio of 74 to 15, or nearly 5 to 1.

"We cannot stop to inquire into the causes that determine so great a want of accordance between the two authors; it certainly is not due to any bias on one side or the other, because both are eminently impartial observers, and neither upholds any peculiar theory in regard to cerebral affections; nor can we suppose that the national constitution of the French and English habit of body is so different as to afford an adequate explanation of the discrepancy. Still the numbers given demonstrate that headache is an important symptom in the local affections of the cerebral system, while they also show, that its absence must not be regarded as trustworthy evidence of the immunity of the cranial contents. When we examine into the occurrence of headache in the individual varieties of cephalic disease, we see that the ratio varies considerably; it is comparatively rare, as we have already seen, in apoplectic disorders; here the cerebral tissue itself is commonly primarily involved. The cases of cerebral softening in which headache is absent also predominate largely over those in which it occurs; while the reverse is the case in meningeal disease, where the frequency of cephalalgia to its absence is, according to Andral's observations, as 4 to 3. This is in harmony with what we observe in all the organs of the body; for, it is a rule almost without exception, that disease affecting the envelops is accompanied by pain in a severer form and more frequent ratio than when it seizes upon the actual parenchyma of the viscera. This point is also one that may be made available in estimating the probable locality affected in the chronic or periodical forms of cephalalgia. The relation of the envelops of the brain, in a physiological point of view, to their contents, is even of more importance, if such a remark is justifiable, than in the case of most other viscera, since they serve not only for protection and for the facilitation of change of form and place, but are, at least in part, eminently the medium of nutrition. The liver, the kidneys, the spleen, the heart, the lungs, and the muscles, receive their supplies of the nutrient fluid by conduits that enter directly into their structure, by immediate vascular connection with the nearest arterial trunk. The great bulk of the blood conveyed to the brain is, as it were, filtered through the ramifications contained in the pia mater, while it quits the organ in a less indirect course, though still in a much more circuitous manner than commonly prevails elsewhere. Both the pia mater, therefore, as the arterial membrane, and the dura mater, *sit venia verbo*, as the venous membrane, claim our attention in a point of view distinct from that presented by the epithelial, serous, or fibro-serous membranes occurring elsewhere. I am far from asserting that we are able to localize every case of headache in any one of the intra-cranial tissues; but it is the more necessary to establish all the elements which may enter into the determination of the question, as it is one upon which we are comparatively ignorant; and the whole history of medicine teaches us, that we can only arrive at positive results by minute attention to all the items constituting a complex of morbid phenomena."

Dr. Sieveking divides the exciting causes of headache into three chief categories: those directly affecting the brain, those proceeding from the chylopoietic viscera and the organs of nutrition, and those derived from derangement of the sexual system.

The treatment in each case is determined by the cause.

ART. 33.—*Case of Facial Anæsthesia, with simultaneous destruction of the Eye.* By Dr. TAYLOR, Surgeon to the Central London Ophthalmic Hospital.

(*Medical Times and Gazette*, 1854.)

Of the various points of physiological and pathological interest which this case presents, the most remarkable is the occurrence of the destructive inflammation of the eyeball simultaneously with the first appearance of the facial anæsthesia. In the well-known experiments of Magendie, which have since been carefully repeated by Valentin, complete division of the fifth nerve within the cranium, in rabbits, was followed by inflammation of the eye within twenty-four hours;

but, in the human subject, where the anæsthesia is the effect of disease, the interval is much longer; in some instances, even when the paralysis of the nerve is complete, the eye remains totally unaffected; in others, the immunity lasts for many months, and it is very rarely that the interval is less than several weeks. These remarkable differences, which are as yet wholly unexplained, have led several eminent physiologists to maintain, that the disease of the nerve exerts no direct influence in producing the inflammation of the eye, but that the organ suffers secondarily from the irritation of dust or other foreign particles, the presence of which is unfelt, from the loss of common sensibility, or which, as Sir Charles Bell suggested, may remain unremoved, owing to concurrent paralysis of the eyelids. The fallacy of the latter suggestion is strikingly shown by the case under consideration, in which the fifth and seventh nerves were paralyzed upon opposite sides, the right eye escaping all injury, though its eyelids could not be closed, while the left, that on the side where the fifth nerve was diseased, was destroyed. In an able paper, in the twenty-eighth volume of the *Medico-Chirurgical Transactions*, Mr. Dixon has adduced much valuable evidence in favor of the correctness of Magendie's conclusions, still, in every case which has hitherto been recorded, the long interval which has elapsed before the eye was affected, has afforded some countenance to the opposite opinion. So far as a single case bears any weight, the one now reported appears conclusive; for, taken in connection with what has been already observed, it is impossible to consider the inflammation of the eye as merely a coincidence, and the rapidity with which it occurred excludes the possibility of its having been occasioned by any external irritation.

Eliza Martin, æt. 46, became an out-patient of the Central London Ophthalmic Hospital, March 17, 1853.

Six months previously, after exposure to cold and wet, she had been confined to bed for a fortnight with a violent cold, and pains all over the body. On awaking one morning, she felt her left eye painful; on putting her hand to the part, she found that the feeling of the whole of that side of the face was gone, and on examining further, she discovered that the features were drawn to the same side, the eye bloodshot, and the vision impaired. The pain soon became very severe, radiating all over the side of the head and face, and in a few days the sight of the eye was completely gone. She was then received into St. Bartholomew's Hospital, where she overheard her case—so far as the eye was concerned—described as one of abscess of the eyeball. She remained in the hospital for six weeks, during which the pain completely left her, and the eye, which had been very prominent, returned nearly to its proper position in the orbit; the sight, however, did not return, and the eye looked, she said, as if there was something white in it. In the beginning of March the eye again began to protrude, but painlessly, and in a few days it burst, discharging a quantity of matter.

I found the left eyeball enlarged, filling up the orbit to its margin, and protruding considerably; the eyelids were swollen and livid in color, and the conjunctiva was chemosed, pale, and flabby; the lower half of the cornea was gone; the upper, with a sharp and clean-cut edge, overlapped what appeared to be the remains of the iris, the opening into the eye was blocked up by a soft scab, on detaching which, and pressing gently, pus and discolored vitreous humor flowed out; a probe was introduced through the opening, and moved freely about without being felt in the slightest degree, on examining microscopically what adhered to it, it was found to consist of pus and broken fibres of the lens.

The whole of the left side of the face supplied by the fifth nerve was insensible to such a degree, that she could merely tell when she was roughly touched, but felt no pain when pinched or pricked with the point of a pin; even this amount of sensibility she represented as being of recent occurrence, and on the forehead she had no feeling whatever. The anæsthesia affected equally the nostril, inside of the cheek, gums, roof of the mouth, and tongue of the left side. The skin of the upper lip at the entrance of the nostril was raw and excoriated, apparently by the thin mucous secretion which trickled over it.

The features were drawn to the left side decidedly, but not to a great extent;

she said that a considerable improvement had taken place in this respect. She could not close the right eye; when she attempted to do so, the eye rolled upwards and inwards, so as to conceal the cornea, while rather more than a quarter of an inch of the sclerotica remained exposed. Neither could she close the lips, from the left corner of which, owing to its being rather more depressed than the other, there was a constant dribbling of saliva. The left temporal and masseter muscles remained perfectly passive during mastication; on the right side they acted in the usual manner. She was unable to use the left side of the mouth in eating. The food accumulated between the teeth and the cheek, and remained there till it was pressed out purposely; and as, from the absence of sensibility of the parts, she was unconscious of its presence, it was sometimes allowed to remain until it became offensive. There was no accumulation of food in the right cheek in eating. The left side of the tongue was much atrophied, being not more than half the size of the right; it was protruded towards the left corner of the mouth. Neither the uvula nor the soft palate appeared to be implicated in any way.

As the patient unexpectedly discontinued her attendance at the hospital, the opportunity was lost of examining minutely into the state of the senses of taste and smell; the former, she said, was completely gone on the left side, except towards the back of the mouth, and as she was in no way prompted, this answer may be considered as satisfactory to a certain extent; the sense of smell, though blunted on the left side, was never altogether lost. The hearing of the left ear was not at all impaired, and this was the more evident, as she had been completely deaf on the right side for several years. Her speech was very indistinct, apparently from her inability to articulate the labial sounds, owing to the paralyzed state of the lips.

I had another opportunity of seeing her very recently. The eyeball had shrunk into a small stump, marked by the action of the muscles; she had severe neuralgic pain in it some time ago, which lasted for about ten days, but, with this exception, it has been free from uneasiness. The sensibility of the face is slowly returning in parts; on the eyelids it is perfect; on the lower part of the cheek it is little inferior to that of the right side; on the forehead and side of the nose it is not at all improved. The skin of the upper lip is still excoriated and slightly ulcerated; the sensibility of the nostril is much improved, and the sense of smell is nearly as acute as on the other side. There has been no change in the state of the mouth, except that the gums are somewhat swollen and unhealthy, and the left side of the tongue has, if anything, slightly increased in size. The sense of taste was more carefully inquired into, and her former statement found to be correct. The features are now quite straight, but the lips and the right eyelids remain paralyzed as formerly; when she attempts to close the former, the muscles of the chin, on the left side, are seen quivering under the skin. When she uses the jaws in mastication, the temporal and masseter muscles of the left side are now felt to swell under the finger, but less firmly than those of the right side, and not quite synchronously with them; the muscles of the right side act first, and then, after an appreciable interval, those of the left.

The suddenness with which the paralysis occurred, and the fact that the nerves of both sides were affected simultaneously, render it probable that the cause was an effusion of blood at the base of the brain. The situation of the lesion, whatever may have been its nature, is accurately pointed out by the symptoms which it produced, which indicate that both roots of the fifth, and the hypoglossal nerve of the left, and the seventh nerve of the right side, were the parts implicated. The complete paralysis of the orbicularis oris might, at first sight, lead to the idea that the seventh nerve of the left side was also involved; but, as this was the only muscle under its control whose power was at all impaired, some simpler explanation will probably occur to those who are conversant with nervous pathology.

ART. 34.—*Hydrochlorate of Ammonia, as an internal remedy in Neuralgia.*
By Dr. EBDEN, of the Bengal Medical Service.

(*Indian Annals of Medical Science*, April, 1854.)

Carrying out Dr. Watson's recommendation, Dr. Ebden has tried this remedy "in a great many instances and cases, and with, almost invariably, satisfactory results." He writes:—

"In facial neuralgia, tic-douloureux, nervous headache, toothache, clonus-hystericus, and in affections of this neuralgic kind generally, and not excepting sciatica, and even in one case of neuralgic dysmenorrhœa, I have often given it, and have been convinced, after a full trial of its merits, that it is decidedly a very valuable and powerful remedy for the relief of neuralgic pain generally.

"I usually prescribed from twenty-five to thirty-five grains of the salt in an ounce of mint water, or camphor mixture every twenty minutes, for three doses, giving, if required, a saline aperient with the first dose. The second dose is usually sufficient for the relief of the immediate pain; but I have observed that where it has been necessary to repeat and continue the doses, the patient has, in many instances, afterwards enjoyed a comparative immunity from the recurrence of pain; and therefore have I, in some cases, been led to continue the exhibition of the muriate systematically at six or eight hours' intervals for some days. From memoranda of many satisfactory cases, I am induced here to select the particulars of two, in which the good effects were great and marked."

1. In June, 1850, at Simla, a lady of somewhat delicate frame, æt. 35, suffered very severely from an attack of facial neuralgia, an affection to which she was very subject. She had travelled all over Europe, and had, in many large cities, consulted professional savans on this disease, to which she was so great a martyr. No advice had benefited her, "no doctors' stuff yet had ever given her any relief." After some persuasion, but with no hope on her part of success, she was induced to try the muriate in full doses. While in actual agony, she took the first 30 grs. with marked relief, in ten minutes' time; the second dose quite removed all pain. She has never since had any return of her old enemy, for now she wards off every threatening attack, with a dose of "the ammonia muriate" solution, with which she is always now provided.

2. A clergyman who had suffered terribly from "nervous headaches" coming on at all times, but having apparently no other disorder of his general health, had consulted many medical men, and taken many remedies. Early in 1851, he tried the ammonia with the immediate relief to the present attack, and with very great alleviation of many subsequent headaches. He, too, managed to ward off very many attacks by taking 30 grs. of the muriate whenever the pain threatened; and he was rendered, after some few days' treatment, very much less liable to them, than he had previously been for many years.

ART. 35.—*Cases of Hydrophobia.*

By (1) Dr. TODD; (2.) Dr. ROWLAND; and (3) Dr. HUGHES

1. (*The Lancet*, Sept. 9, 1854.) 2. (*The Lancet*, Sept. 23 and 30, 1854.) 3. (*Medical Times and Gazette*, May 27, 1854.)

These three cases form a most valuable contribution to the comparatively small stock of facts belonging to this very obscure and fatal disorder.

1. *Dr. Todd's Case.*—George G——, æt. 36 years, a colorman, was admitted into King's College Hospital, June 25, 1854. He had been bitten on the left hand by a rabid dog three months previously, and no precautionary measures had been adopted to obviate any evil effect which might follow. About eleven weeks after the bite, and after a period of night-watching over his wife suffering from small-pox, he complained of extreme depression and weakness, which he

attributed to want of rest. Two days before his admission into the hospital he was so exhausted that he was obliged to cease his work sooner than customary, and on attempting to drink some sour beer he experienced a choking sensation. He swallowed some, however, retired early to rest, and slept till morning. On rising in the morning, and endeavoring to drink some coffee, he again experienced a choking sensation. On admission to the hospital, he answered questions rationally; the face was pale; pupils dilated; mouth open, with the lower lip dropped, and the upper occasionally twitching. The forehead was covered with a cold clammy sweat, the countenance had an anxious expression, and he was perpetually swallowing. He complained of headache, and said that the gullet felt as if clogged up with something like paste, which he could not swallow, and that he dreaded spitting, as it brought on as severe a fit as drinking. The slightest draught of air threw him into a spasm exactly resembling the state of a man under a shower-bath, when the water first strikes down.

He asked for water, and then turned to a patient, and talked very quickly, as if to lead away his mind from the consciousness that water was coming—glancing occasionally and nervously round to watch the nurse's movements. When the water was put before him, his face became congested, and his whole body shook; his features began to work like those of a man in an epileptic fit, beads of perspiration trickled down his face, he made a sort of sobbing noise in his throat, threw up his trembling hands as if to motion away the glass, when, with a powerful effort he snatched it with both hands, lifted it to his mouth, and threw some of the water down his throat. Then the violence of the spasm was redoubled for a few seconds, and he sank back exhausted, like a man who had been undergoing a severe bodily exertion. His mind was perfectly clear, and he seemed a very sensible kind of man.

Ice was given to him, which he swallowed with immense effort. The sobbing seemed to originate in spasms of the glottis. Beef-tea enemata, and five grains of quinia every second hour were prescribed.

The use of ice relieved him greatly, and he became able to hold a glass of water in his hand, and look at the fluid, but although complaining of fatigue and longing for sleep, so soon as drowsiness stole over him, some breath of air brought on spasm, and he started up, dreading suffocation.

On the morning of the second day, he was more irritable, spit a good deal, and sobbing respiration was almost constant. The countenance was pale and more anxious and distressed in expression, and he refused the enema, as it excited spasm. Pulse 128.

During the afternoon he became more violent, attempted to jump out of the window, spit at every one, attempted to bite, and was very fierce. After his dash at the window, the poor man was secured, and chloroform administered. Subsequently the spitting became excessive, and he tried to bite his own hands, the sheets, &c.

Equal parts of beef-tea and wine were administered by the stomach-pump, and quinia and opium by the rectum, and he was kept under the influence of chloroform for eight hours, one drachm being used at a time. When, occasionally, allowed slightly to recover from its influence, spasms of the neck immediately occurred. There was slight episthotonos; towards 10 p. m. he began to vomit a dark matter like the black vomit of yellow fever. He voided a great deal of it, and the fluid at last choked him.

Post-mortem examination about sixteen hours after death.—All the results of the post-mortem examination were of the most negative character, and it seems not improbable that an extreme degree of congestion of most of the organs—brain, spinal cord, lungs, liver, kidneys, &c.—which was almost the sole perceptible morbid change was due in great measure, if not entirely, to the large quantity of chloroform continually inhaled by the patient during the last eight hours of life.

A most careful, general and microscopical examination of the nervous centres, by Dr. Todd, showed no appreciable change from the healthy structure; and of the viscera, excepting the congestion, the liver and kidneys alone presented indications of structural change, the cells of the former being white, granular, and

opaque, very few of them containing oil, and the nuclei indistinct; some of the tubes of the latter contained a fibrinous plug, and the renal epithelium was less defined, whiter, and in some tubes less bulky than usual. Certain granular tube-casts observed in the urine shortly before death, were regarded by Dr. George Johnson as coming from "the epithelial cells, and not from the Malpighian bodies—a result of a modified nutrition of cells."

2. *Dr. Rowland's Case.*

Eliza Ann F—, æt. 11 years, of a nervous excitable temperament, was admitted into Charing Cross Hospital, July 3, 1854.

On the 30th of May she had been bitten on the face by a dog, which at the time was after a bitch in heat. The dog seized her on the bridge of the nose with the upper jaw, and on the inside of the upper lip with the lower jaw. *The animal had shown no symptoms of rabies anterior to this period, neither have any symptoms of that disease appeared since.* No precautionary measures were adopted.

On the 2d of July (thirty-two days after the injury), the girl showed a disinclination to take tea. She refused her supper, complaining at the same time of sore throat, and went to bed as usual. On the next morning, at about 3 A. M., the mother, who slept in the same room, was awakened by the child sobbing violently. Thinking she was under the influence of a dream, she awoke and soothed her, after which the child slept till about 5 A. M., when the sobbing returned, accompanied by slight spasmodic twitchings of the limbs. As the girl was frequently in the habit of being awakened by dreams during the night, the real cause of her restlessness was not suspected; the mother quieted her again, and laid her on the bed, where she remained till called at half past 8. She evinced great disinclination to rise, saying that her legs, arms, and head were aching, and complained of pain on the inner side of the upper lip. On attempting to stand she seemed unable to walk, but being gently shaken, she revived, and went into the yard to wash, as usual. She stated that her throat felt as if she had hurt it, and that this uneasiness had existed for some days. Thinking she was gone a long time, the mother went out and found her standing in the yard unwashed. She inquired the reason, and the child answered, "I can't! I can't! indeed, mother!" The latter begged the child to try, on which she made an effort, but was at once seized by a convulsive fit, and unable to accomplish the ablution. The patient then came into breakfast, and on refusing her tea with the same convulsive horror, and complaining of soreness of the neck, the true nature of the case was suspected. The child was strongly impressed, after the accident, that she should go mad from the bite.

State on admission, at 12 A.M., on Monday, July 3d.—Expression of countenance, anxious and watchful, more like dread of something going to appear; face pale and intelligent. The patient is of spare habit; hair light-brown, fine and long; has been brought up at a Sunday school; talks distinctly, and has full use of mental powers. Pulse natural; tongue steady and clean; bowels open yesterday morning; pupils dilated; skin hot, dry. Mr. Diamond, the house-surgeon, poured out a little of the tonic mixture kept ready; but when offered to her she refused to taste either this or water. She had at the same time spasmodic action of the muscles of the trunk and upper and lower extremities, accompanied with sobbing and sighing, as when a person unaccustomed to douching has a bucket of cold water thrown over him. Blowing on the face produced the same effects as the showing of water. When the patient was gazed at for some time the anxious look would go away, and break into a smile. The mental powers were preternaturally heightened.

A draught, composed of fifteen minims of chloroform, ten of laudanum, in an ounce of water, was now offered, but the sight of it caused the convulsions to come on again. The house-surgeon at last succeeded, by getting her to close her eyes, open her mouth, and at the same time gently expiring, he placed the fluid suddenly into the mouth with a spoon; but directly it was in the cavity the convulsions came on again more severe than before.

Half past 12 A.M.—Dr. Rowland saw her, and ordered fifteen minims of chloroform, to be taken every third hour, and at half past one o'clock he prescribed

a small dose of calomel, to be followed by an enema of turpentine and castor oil. The back was also to be rubbed with equal parts of chloroform and tincture of aconite.

Great difficulty was experienced in giving her the calomel. It was tried mixed up with a little sugar in a teaspoon; she took it into her own hand, but when she got it close to her mouth the spasmodic convulsion came on. It was at last tried, at Dr. Chowne's suggestion, placed between bread and butter, and was thus ingested. When she had eaten it all, she asked for more, and thought she could drink a little warm water, but she could not take it when presented. It was tried through a silver tube, but without success, and the attempt to give an enema also failed. The application down the spine directly brought on convulsions, and at the first application she threw herself on all fours like an animal.

Half past 2 P.M.—Prefers sitting up, the thighs flexed, with the elbows resting on the knees, the hands being placed at each side of the head. When requested to lie down, she says she feels easier when in the position just described, and that if she attempted to recline the cold would hurt her back. To remedy this, the sheet was warmed, and with a little persuasion she gently overcame the difficulty, as she is very willing, and attempts to do anything you propose to her. Immediately on lying down she has, however, an attack, though enjoying the full use of her senses.

Pupil dilated; tongue whitish; skin hotter, dry; pulse quick, 140.

3 P.M.—Has pain at the top of the head. Is lying down with her hands pressed at the sides and at the back part of the cranium; says she is easier so. Complains very much of painful stiffness at the back part of the neck. Convulsions, which occurred once every half hour, are more frequent and severe. Expression more wild and anxious. When asked to glance at a looking-glass, she complied, and directly she caught sight of herself the fit was brought on; soon after this she passed a little pale urine.

Half past 4 P.M.—Asleep; looks very mild and anxious; breathing in a sobbing manner.

5 P.M.—Her father is with her; she looks much altered; convulsions brought on by the slightest breath; is very pleased to see her mother; holds her hands, and does not want her to leave her.

Half past 5 P.M.—Has eaten some bread and butter; feels very thirsty, but she says it is no use trying to drink, as it will choke her. A window open at the end of the ward causes too much atmospheric disturbance for her. Cold applied without wind does not produce much effect. She is much worse, the attacks being more frequent.

Half past 6 P.M.—Fits much stronger and more frequent, being four or five in the quarter of an hour, and causing some difficulty to the nurse to keep her in bed. *She is asking if the dog had been killed yet.*

7 P.M.—Is now in a very strong convulsion. She is given to inhale, on a piece of lint, about one drachm of chloroform, and after a little trouble and persuasion, she took the lint into her own hand and held it under her nose. This soothed her considerably, so much so, indeed, that when it had all evaporated she asked for more. Mr. Diamond kept on with this continuously till—

8 P.M., when Dr. Rowland again came to see her. The latter tried to put her completely under the influence of the anæsthetic agent, but failed, as had happened to the house-surgeon previously. At this time it was difficult to apply the aconite to the back, for when she sat up, which was the only way to accomplish the frictions, the convulsions came on again, as severe as they had done before the chloroform was inhaled, directly an attempt at rubbing was made. She violently threw herself back, and said, "Don't do it any more—I shall be better presently." Ice was also given her by her mother, but she would not take it on any inducement, giving as a reason that her brother used frequently to give her ice after he had had it in his mouth, and she had therefore taken a dislike to it.

9 P.M.—She complains of a severe pain, referred to the epigastrium and throat; convulsions worse during the last half hour, occurring violently every two or

three minutes. The mention of water or the disturbance of air caused by the clothes of the attendants, bring on a paroxysm immediately.

Half past 10 A.M.—Convulsions worse; has once or twice started up in bed suddenly in the standing position, and then thrown herself again forcibly on her back.

Half past 11 P.M.—Passed about a pint of limpid urine; is much quieter; has begun again with the inhalation of chloroform; pulse small and quick; suddenly sits up in bed, and then throws herself back; cannot bear her mother to leave her or let go her hands. complains greatly of the pain in the back of the neck and epigastrium; skin hot and moist.

Second day, 1 A.M.—The paroxysms during the last hour have become less frequent, —only three or four times, except when she is excited by the sound or mention of water. The chloroform was again given her on lint to inhale, but, as she had a repugnance to it, it was not pressed. The patient has evinced slight aberration, fancying herself at home. She has shown an inclination for milk and an orange; but although she attempted several times with her own hand to take it, each time she placed it near her mouth the violent spasm took place.

2 A.M.—Better; only one paroxysm during the hour; impression of being at home increased; asked her mother to bring out her bedclothes; has had a few minutes sleep.

3 A.M.—Fits much more frequent; jumped up suddenly on her feet, and voided a small quantity of very offensive fæces; constantly asking her mother trivial questions about her toys, workbox, &c.; great dread of her parent leaving her side for an instant; constantly repeating her pleasure at the dog being killed, (*which circumstance had previously been told her, though incorrect, in order to quiet her*) complains of very great pain in the epigastric region, for several minutes is unable to complete a sentence, being interrupted by the fits, complains of great heat; wants her clothes and bedclothes taken off; distressing anxiety for fear her mother should leave her, turning every instant to see if she was still present.

Half-past 3 A.M.—About this time again passed a small quantity of black offensive fæces, and started up suddenly, just as previously; is inclined to be sick; pain in the epigastrium and throat increased; says she is hot and bad; pulse small, occasionally intermits; skin moist.

4 A.M.—After a retching attack, the patient spat out a thick white viscid saliva, which hung like a drop tenaciously to the lower lip; this continues frequently, and is always preceded by retching; convulsive paroxysms more severe and frequent. The child's body performs violent writhing movements the head is thrown back, and the extremities are in violent motion; she occasionally catches hold of the bedclothes, and fondles them tightly. has left off the sitting up in bed, when this occurred, she always threw herself back with a violent effort, she could not do so quietly.

Ten minutes past 4.—Retching and convulsions more severe; saliva increased; looks at times very wild and vicious, the mother has started back two or three times, afraid of her; delirium increased, calls the house-surgeon "Henry;" says a strange dark man is coming up stairs; wants the street-door shut. The retching for the last five minutes was continuous, and is so now, beginning with a peculiar eructating noise; has just had a kind of suffocative attack, lasting for nearly half a minute, which seems to have prostrated her much. Since then the paroxysms are weaker; delirium increased.

Twenty minutes past 4 —Looks more wild, says she is mad because the dog bit her; complains of great pain in the throat; eyes sunken, expels her breath through her nostrils with a snort, but takes it in through her mouth; the inspiration is short, expiration quick and forced, has had no retching for the last five minutes till just now, and has vomited up a little matter like thin gruel. Says, "Let's cut our throats!" and is now saying the Lord's Prayer.

Half-past 4.—Has been for the last ten minutes continuously delirious, talks most about blood, and articles of dress being red, says, "We all look red," and then "We are all white;" no retching; spits a little saliva occasionally; the peculiar eructating noise is still present; recites verses.

Half-past 5.—The convulsive paroxysms, which are nearly consecutive, consist mostly in rigidity of the back, neck, and inferior extremities, which latter are sometimes kicked up and down; the arms are moving continuously across the chest; sickness has become more frequent; she is much weaker after several of the suffocative attacks: the breath smells earthy; delirium nearly continuous; talks much of fire, blood, dress, and riches; hands and feet cold and purple-colored.

Quarter to 6.—Sickness, which had stopped for about a quarter of an hour, has come on again; the matters vomited are greenish, watery, and frothy; the convulsions are more like a very exaggerated fit of shivering, excepting the rotatory motion of the arm; the back is quite stiff.

Ten minutes past 6.—Pupils widely dilated; is in a profuse sweat; extremities are hot again; vomiting, which had stopped for a few minutes, has come on again, and is yellow and watery. Pulse 140. Surface of the body moist; is much more exhausted; sighing has come on nearly continuously; is talking of heaven; and connects words in rhymes.

Half-past 6.—Is much worse; paroxysms weaker; delirium nearly continuous; tries to scratch; says she must catch the bystanders, but is unable to move out of the flat position she is in.

Ten minutes to 7.—Sickness and convulsions continuous; delirium more of a muttering character. Pulse very small and thick. The head is bathed in perspiration; the hands and feet cold and dark-colored; the right cheek has a greenish look; the lips are dark; the eyes are fixed upon the persons watching her; she vomits continuously.

Quarter past 7.—Pupils widely dilated; colder and more purple; vomiting still continues, seems to choke her, not having power to get the fluid out of her mouth; mutters more so as not to be so easily understood.

Quarter to 8.—Sobbing constantly; convulsions are similar to severe shivering; is becoming comatose; cannot answer any questions; muttering delirium.

Quarter past 8.—Is sinking fast; always sobbing; arms continue to move occasionally, with convulsive starts of body.

9.—Low muttering; delirium; foams at the mouth; pulse hardly perceptible at the wrist; slightly over cardiac region.

Half-past 9.—The sobbing continues; occasional convulsive starts; is quite comatose; pupils widely dilated; foams at the mouth; no pulse at wrist; extremities are warmer than the surface of the body; clammy perspiration.

Quarter past 10 P.M.—Died suddenly; looks like a child who has been suffocated. Pupils dilated; body much warmer than it has been for the last three hours, and bathed in moisture. Urine, under microscope, presented a great number of blood-corpuscles (specific gravity 1.011); pale.

Post-mortem Examination.—Membranes of the spinal cord very vascular; spinal fluid very transparent; vascularity of cord general. Brain: General venous congestion, substance soft; nothing worthy of notice in the medulla oblongata. The papillæ of the tongue were much elevated and large, especially at the root of the organ; the mucous membranes of the pharynx and larynx, as far down as the œsophagus and glottis, were red, thin, and loose, and marked by a circumscribed transverse line about the base of the arytenoid cartilage. Most of the organs of the chest and abdomen were healthy; the blood was very fluid and very dark colored, the upper lip being livid and discolored, as with persons who die from submersion.

3. *Dr. Hughes's case.*

Thomas Spink, a very muscular young man, æt. 19, was admitted into Guy's Hospital, May 15th.

Previous history.—The father of the young man was by trade a bricklayer, and his son had worked partly with him, and partly as a "tumbler" at fairs. Five or six years ago, the boy, then aged about 13, had been severely bitten in the left leg by a strange pointer bitch. The dog had puppies at the time, and the occurrence took place in the road. The father of the boy witnessed the occurrence, and remembered it well, because he had afterwards to dress the injured

part. Nothing whatever was known as to the history of the dog. After the wound had healed, the boy never again complained of it, and he manifested no alteration in temper or manner. He was usually of quiet habits, and not much addicted to drink. He had always lived at home, and the father felt certain he should have known if any bite, wound, or other injury, had occurred to him since the one mentioned. He had enjoyed excellent health, in every respect, until Friday, the third day previous to admission. On the afternoon of that day (he had been staying at home, being out of work), he went to sleep, and woke up in the evening, appearing disturbed, and stating that he had had a very bad dream. He afterwards took some tea, and then went out for awhile. At night he complained of a severe headache. On Saturday, he still complained of not being well, but, in the afternoon, walked with his father a distance of some miles, to "tumble" at a neighboring village. Late in the evening he commenced the practice of his evolutions, but, after having stood once on his head, complained that it hurt him so, that he must give it up. During the walk home, his father noticed that his limbs seemed weak, and the journey took them many hours. Throughout Sunday he stayed in the house, still complaining of "splitting headache," and appearing very ill. He could, however, swallow fairly, and had no noticeable difficulty in doing so. Late in the evening, he got up, and went alone to a neighboring public-house to get some beer, which he drank, but, as the landlady who served him afterwards stated, with the greatest difficulty, as "it seemed as if it would have choked him." On Monday morning he said he could not drink, and took only a little sopped biscuit, which he appeared scarcely able to get down. In the afternoon of that day the attacks of spasm began to occur. He exhibited the greatest terror of some impending mischief, although perfectly conscious. A medical man who had been sent for, entering the room, he begged him not to approach, as he could not, he said, help striking him if he did. These symptoms becoming rapidly aggravated, he was conveyed to the hospital late in the evening.

Present History.—A message had been sent by the surgeon in attendance, requesting that some one would come to his house, in order to administer chloroform, previous to his removal to the hospital, as the spasms were so violent, that he thought great difficulty would otherwise attend the attempt. A dresser accordingly went to the patient's house for that purpose, but, finding that the chloroform seemed only to excite him, its exhibition was desisted from. During the journey, which was only a short one, every breath of air appeared to excite the most violent spasm about the throat. At first sight there was a wildness about the patient's expression, and an appearance of terror and alarm, which those who had ever before seen a case of hydrophobia could not mistake. The least breath of air threw him into a violent paroxysm of spasm, which appeared mainly to affect the pharynx, but in which the head was also thrown back, and there seemed some tendency to opisthotonos. His conversation was generally wild and incoherent, but he could, when more quiet, answer questions, and stated his age and name, but, as it was afterwards found, not quite correctly. He complained of much pain in the left leg, and immediately below the knee, on that side, was the scar of an old bite. There was no lock-jaw whatever, but, although he appeared very thirsty, and anxiously attempted to drink, yet he could not swallow a drop of fluid, violent spasm being immediately produced by the attempt. There was much adhesive and frothy saliva about his mouth, which he was constantly endeavoring to spit out. Gasping eructations frequently occurred, but there was no actual vomiting. He was in the greatest alarm, and appeared, from his expression, to be in fear that it was intended to murder him. Respiration was constantly attended by sighing efforts, and almost by shuddering, his condition in this respect much reminding the bystanders of that induced by a sudden plunge up to the neck in cold water. At first it was not thought necessary to confine him, but afterwards it became needful to do so, as on one occasion, watching his opportunity, he had thrown himself out of bed, and sprung violently against a window which was near. After this, his arms were tied down to the sides of the bed. His pulse was rapid, and subject to sudden alterations in frequency, varying in the course of a few minutes from 100 to 130; the skin was warm and moist, and the pupils widely dilated.

The remedy first tried was the Indian hemp, the extract of which (obtained fresh from Squires') in the enormous dose of ten grains, was exhibited by injection into the rectum. The first quantity was almost immediately expelled, but the second was retained. It appeared, however, not to exert the slightest effect in controlling the tendency to spasm. The paroxysms continued to recur almost constantly, and were induced by the slightest causes. At about 2 o'clock, A. M., it was decided to exhibit chloroform. The man resisted the attempts to make him inhale it, tossed his head about (he was strapped down), and even made an effort to bite the hand of the administrator. The first effect was to excite and render the paroxysms much more violent and constant; as insensibility was induced, however, the tendency to spasm subsided, and ultimately the patient lay quite quiet. It was noticed that his pupils, which previously had been widely dilated, contracted when under the influence of the chloroform. The inhaler being removed, it was found that the effect of the anæsthetic was never prolonged more than a few minutes at a time, after which the spasms again began to occur. With short intermissions the patient was kept under the influence of the remedy for more than an hour, when, on account of the extreme collapse, it was deemed necessary to suspend it. The pulse was now not perceptible at the wrist, and the surface was cool and clammy. After the chloroform was laid aside, some returns of spasm took place, but not violently; the pulse never became perceptible, and the patient, after gradually sinking, died about a quarter to 4 A. M. A few hours previous to death, there had been noticed some emphysema of the cellular tissue in the root of the neck, caused, no doubt, by rupture of the trachea or some part of the larger bronchial tubes during spasmodic closure of the glottis.

Autopsy, twelve hours after death.—There was great *post-mortem* rigidity, all the muscles being hard. With the exception of the hands, which were rigidly flexed, there was no distortion of any of the extremities. On opening the head, the veins or the meninges were found full of blood, and the brain substance itself presented a little more of vascularity than is seen in the average of examinations. The whole of the pharynx was deeply congested, and of a slight bluish tinge; the boundary of the congestion was definite, and terminated at the commencement of the œsophagus. The tonsils were of usual size. The left side of the heart was firmly contracted, and the blood was universally fluid. The posterior parts of the lungs were loaded with blood, and some parts presented the characters of incipient lobular pneumonia. There was interlobular emphysema about the root of the left lung. The cord was taken out, but, with the exception of some very questionable softening of a part in the middle dorsal region, it presented nothing morbid. Beyond general congestion of the abdominal and thoracic viscera, distension of the intestines with gas, and a dry condition of the peritoneal surface, no other departures from the healthy condition were observed. The surface of the corpse was carefully examined for any traces of recent wounds or abrasions, but none were discovered.

ART. 36.—*On Hydrophobia.* By Dr. ZIMMERMAN.

Casper's Vierteljahrschrift für gerichtliche Med., Bd. 4, Heft 1; and *Edinburgh Monthly Journal*, Oct., 1854.

During 1851 and 1852, an epidemic of hydrophobia raged in Hamburgh having come there with the Austrian troops from Jutland, where it originated in 1850, through Schleswig and Holstein. 267 cases occurred, 125 in the town itself, most of them shut up and closely observed. Cases of both raging and dumb madness occurred, both apparently depending on the same poison. Dr. Zimmerman gives a good account of the *post-mortem* appearances; as these differ in no respect from those formerly published in this journal, we pass to a more interesting point, viz., its communicability to man. He knew of thirty people bit by mad dogs, not one of whom became hydrophobic, not from treatment preserving them, for only a few were treated, and they only with the usual external appliances, and he and his friends heard of many more who had likewise been bitten without any bad consequences, and without employing any, even

the simplest, preventive measures. In fact, during the whole course of the epidemic, the only man who became *hydrophobic*, and died from it, was bitten by a dog *not mad*. The dog was killed and examined by veterinary surgeon Schrader, who had made 120 dissections of dogs during the epidemic, and who distinctly asserted there was little or nothing wrong with any organ in the body, and certainly not a trace of the appearances proper to *rabies canina*. Zimmerman says, that in all known cases the disease found its origin only in the bite of a dog already mad, and that other animals, as horses, so bitten, likewise became mad. The last opinion seems to require confirmation, the former is not borne out by his facts of fifteen dogs bitten by a known mad one, of which two only became mad, two ran away, eleven remained healthy. He instances also the gradual dying out of the epidemic, after orders had been given out to destroy all dogs found at large, but surely this cessation was to be expected at any rate, after a nearly two years' duration of the epidemic, and the destruction, moreover, of 1100 dogs. The fact also of the dogs inhabiting the islands of the Eibe, escaping while all the neighboring country was ravaged by the disease, at the most only shows the disease to have been contagious, and does not necessarily show the bite to have been the means of rendering it so. And, besides, such unaccountable immunities are continually presenting themselves even in diseases known to be epidemic, and we here use the word as the contrast of contagious; while the escape of at least eleven out of fifteen bitten by a dog known to be mad, shows that even to its own species the bite is not so fatal as supposed, and to man, how much less. He does not believe that an animal poison can remain latent and local for days or months, and then develop itself. He is likewise of opinion that hydrophobia in man possesses no characters common to that of the dog, but is truly a species of tetanus, and probably often produced by mental emotion, though, doubtless, the bite of a mad or even angry dog may cause it,—both from fright, and also, from some alteration in the fluid of a nature similar to that caused by anger or anxiety in the breast milk of nurses, which many a time has killed the child by convulsions or tetanic spasms.

ART. 37.—*On Epilepsy.* By Dr. Todd, F.R.S. Phys. to King's Coll. Hospital.

(*Medical Times and Gazette*, Aug. 5 and 12, 1854.)

Dr. Todd states his theory of epilepsy as follows:—

"Upon this fact of the dependence of attacks of epilepsy upon renal disease I have been enabled to construct a theory of the cause of epileptic fits generally. I hold that the peculiar features of an epileptic seizure are due to the gradual accumulation of a morbid material in the blood, until it reaches such an amount that it operates upon the brain in, as it were, an explosive manner; in other words, the influence of this morbid matter, when in sufficient quantity, excites a highly polarised state of the brain, or of certain parts of it, and these discharge their nervous power upon certain other parts of the cerebro-spinal centre in such a way as to give rise to the phenomena of the fit. A very analogous effect is that which results from the administration of strychnia, which is best seen in a cold-blooded animal, like the frog. You may administer this drug in very minute quantities for some time without producing any sensible effect; but, when the quantity has accumulated in the system up to a certain point, then the smallest increase of dose will immediately give rise to the peculiar convulsive phenomena. The animal is thrown into a series of paroxysms of opisthotonos, which exactly imitate the phenomena, which we often witness in tetanus, as it affects man and some of the higher animals.

"This, then, is the humoral theory of epilepsy. It assumes that the essential derangement of health consists in the generation of a morbid matter, which infects the blood; and it supposes that this morbid matter has a special affinity for the brain, or for certain parts of it, as the strychnia, in the case just cited, exercises a special affinity for the spinal cord. The source of this morbid matter is probably in the nervous system, it may be in the brain itself. It may owe its origin to a disturbed nutrition—an imperfect secondary assimilation of that organ—and in its turn it will create additional disturbance in the functions and the nutrition of the brain. Probably, in no instance does an epileptic fit ever occur with-

out leaving a damaged state of brain, which in some cases is permanent, in others remarkably transient."

Again:—

"According to the humoral theory, the variety in the nature and severity of the fits depends on the quantity of the poisonous or morbid material, and on the part of the brain, which it chiefly or primarily affects. If it affect primarily the hemispheres, and spend itself, as it were, on them alone, you have only the epileptic vertigo. If it affect primarily the region of the quadrigeminal bodies, or if the affection of the hemispheres extend to that region, then you will have the epileptic fit fully developed.

"To give a more definite character to the humoral theory, we need to discover a morbid matter in the blood, in variable proportions, in every case of epilepsy. This desideratum has, as yet, been only partially obtained.

"The clue to a discovery of this kind was first given by the observations of Prevost and Dumas upon the effect of excision of the kidneys. These observers found that the removal of the kidneys always led to an accumulation of a considerable quantity of urea in the blood, and was followed by convulsions and coma, an epileptic state.

"After this, clinical observations by practical physicians showed that disease of the kidneys was apt to be followed by attacks of convulsions and coma, when the excretion of urine fell in quantity to a very low amount; and it was found that, in such cases, a considerable quantity of urea was present in the blood.

"A connection was clearly thus established between the presence of urea in the blood, defective renal action, and the epileptic condition. But whether the active poison is urea, cannot yet be decided. Frerichs, indeed, has lately affirmed, that it is carbonate of ammonia, a product of the decomposition of urea. But even this is still *sub judice*. All that we really know is, that in certain states of diseased kidney, when the excretion falls below a certain point, urea will accumulate in the blood and epileptic seizures will ensue; and, should the patient die, we find no brain-lesion to explain the phenomena; but we find unequivocal evidence of diseased kidney.

"Still, gentlemen, imperfect as is the present state of our knowledge on this point, who is there that does not see, in the facts which I have detailed, a gleam upon the horizon, announcing the approach of some brilliant discovery, which no doubt the advancing state of organic chemistry will yet develop, and which will throw great light on the obscurest disease in the whole range of maladies, which affect the human frame?

"You will find it convenient in practice to place the cases of epilepsy in three groups.

"The first, and largest, is that in which I would place all those cases that are characterized by distinct, well-marked, often very severe symptoms, but in which we are not able to detect any distinct sign of lesion of the brain and spinal cord, either before or after death. Among these you find some which, from the frequency and the violence of the attacks, may be styled acute cases; but the great majority are chronic, and too many are not amenable to medical treatment; they afford an extensive field for the empiric to exercise his craft upon. Many of these patients will have fits for years, with variable intervals between them; in some mild, in others severe; yet, after death, notwithstanding the formidable character of the symptoms in some, and their long duration in others, we find no important lesion in the brain, which can be regarded in the light of a *cause* of the disease. And whatever change may have taken place in that organ, may be regarded as an effect of the disturbed consciousness and the impaired intellectual action, which follow each severe paroxysm, or the result of the shock and the injury to its nutrition conveyed by the excited state of the whole or a great part of it.

"The second class of cases are those which may be grouped under the name of *renal* epilepsy. Of these the case now before us, that of Richard P——, forms a good example, in the chronic form. More commonly, this kind of epilepsy exhibits more acute and urgent symptoms, the attacks being more frequent, and at shorter intervals.

"You may place in the same category with the cases of renal epilepsy those in which the disease is associated with gout. I meet with many examples of this form of epilepsy occurring in men between 40 and 55. The patients are persons of decided gouty diathesis, and have gout rather of the asthenic kind, with a tendency to rapid effusions into the joints. In some, the gout may have shown itself but slightly in the extremities, and the patient may have been troubled with head feelings, giddiness, tinnitus, and may have found himself less capable of mental effort than usual. In the same class you may place the cases of convulsions occurring in the puerperal state, whether they take place after or before parturition; these are sometimes referable to defective action of the kidneys.

"And in the same class you may place cases which have connection with syphilis, although the syphilitic poison may not have produced any organic lesion of a tangible kind.

"Epilepsy arising from exhaustion or perverted nutrition of any kind may be referred to this head; such cases as arise from the abuse of the sexual powers in either sex, from prolonged mental effort and anxiety. In all such cases, a disturbed nutrition of the brain results, which may generate the irritating matter on which the morbid phenomena depend.

"The cases contained in this group are those which are most amenable to treatment, and which may be treated by a rational method.

"To a third class we may refer all those cases in which the epileptic state is associated with organic mischief of some kind, either of recent or of slow formation."

These remarks are *apropos* in the following case; the case and remarks being part of a clinical lecture delivered at King's College Hospital, and reported by Dr. Beale.

CASE.—Richard P., a policeman. From his profession, he has been often exposed to violence, and has frequently suffered from severe blows on the head. Fifteen months ago, the first fit occurred; he was quite insensible, and bit his tongue during the fit. A fortnight afterwards he was seized with a second fit, and he has since been subject to their occurrence at about the same intervals of time. Occasionally, however, a month would pass over without a fit, while sometimes only thirteen days would intervene between two epileptic seizures. Matters have been going on in this way for a year and a quarter.

The patient is a fine athletic man, and had, previous to these fits, suffered from occasional attacks of giddiness and pains in the head, which seem to have been aggravated by hearty eating and free living, although there was no evidence of his having been a drunkard. The frequent attacks have impaired his memory very much. Each fit is followed by a prolonged state of stupor, and his speech and manner are very hesitating for some days after it; and sometimes, as his medical attendant in the country informed us, an attack would be followed by a marked state of imbecility.

Upon a careful examination of this patient, no evidence could be obtained of any organic affection of the brain, nor of any of the thoracic or digestive organs. But our attention was arrested by the condition of the urine as indicative of renal disease. And here let me pause to remark to you, how important it is (independently of the duty, for the sake of clinical history, of noting the condition of so important a secretion) always to examine the urine in cases of epilepsy, for this patient showed no signs whatever of diseased kidney, save such as the urine afforded, or as experience might have suggested in the fits. The urine was distinctly albuminous, and the deposit was granular, and contained numerous casts of the tubes. The specific gravity ranged from 1010 to 1025, and its reaction was acid; the quantity generally two pints.

So far, we had strong evidence that this patient's kidneys were probably diseased. I was anxious to ascertain if his blood contained urea; and also wished, if possible, to test the accuracy of the doctrine lately put forward in Germany by Frerichs, namely, that in cases in which comatose and epileptic symptoms ensue upon disease of the kidneys, it is not simply to the accumulation of urea in the blood that these phenomena are due, but to the development in the circu-

lating fluid of carbonate of ammonia, arising from the decomposition of the urea. The carbonate of ammonia is the poisonous matter. Frerichs has ascertained, that if this substance be injected into the veins of animals, an epileptic condition—i. e., coma with convulsions, is induced, which passes off as soon as the carbonate of ammonia has been eliminated from the system. He has found, also, that when the kidneys have been extirpated from dogs, and urea has been injected into the blood, carbonate of ammonia may be detected in the breath of the animals by holding a rod dipped in hydrochloric acid under the nose, when the characteristic white fumes evince the presence of alkali, and the blood is likewise found to contain it in notable quantity.

On the 7th of July, our patient had had no fit since his admission; but he had been complaining of giddiness and pain in the head, and his mind was much confused. It seemed to me likely that a fit was not far off, and that this was a fair time for the experiment, because the morbid matter, whatever it might be, was no doubt being accumulated.

First, the expired air was tried; but neither by the restoration of reddened litmus held in the current of air as it came from the nostrils, nor by the formation of white fumes when a glass rod dipped in hydrochloric acid was held beneath them, could we obtain indication of the presence of carbonate of ammonia.

Next, a small quantity of blood was taken from the arm, and subjected to careful analysis; and, although it certainly effervesced upon the addition of strong hydrochloric acid, there was no evidence of the presence of carbonate of ammonia by the formation of dense white fumes, and it is quite possible that the effervescence might have been due to carbonate of soda,* but decided traces of urea were obtained.

Leaving, then, the question as to the precise nature of the poison undecided, I have been content to accept the evidence of uræmic poisoning, in this case, from diseased kidneys, as the origin of the epileptic state; and, in the absence of further chemical evidence, I am disposed, for the present, to regard the poison as urea.

Regarding the case in this light, it seemed to me very desirable to subject the patient to a treatment founded upon this view; and the case seemed well suited for that purpose. The symptoms were not of an acute kind, nor did they immediately threaten his life. There was, therefore, sufficient time to carry out a plan for the elimination of the morbid material, and the relief of the irritated kidneys.

In practice, you will meet with, for the most part, two classes of cases of this uræmic poisoning, as it is called; the one acute, the other chronic. In the acute cases, the urine is suppressed, or greatly diminished; and the nervous symptoms come on quickly, consisting of rapid coma, with more or less frequent attacks of convulsions at brief intervals. In these cases, very active purging with a powerful drastic, such as elaterium, is often attended with remarkable success; and it is also a good plan to blister the occiput and nucha freely, so as to obtain an abundant serous discharge from the vesicated surface. The chronic cases are well illustrated by that of our patient P——. In them we need not have recourse to such active and violent remedies; there is sufficient time to act on the skin, as well as upon other emunctories.

Now, the plan which I proposed to adopt with this patient was the following. To act freely upon his skin by the hot-air bath, with the twofold object of relieving his blood of any morbid material, and also of helping the kidney, which experience tells

* The composition of the serum of the blood on July 7, is represented in the following analysis made by Dr. Beale. The reaction was alkaline, and the specific gravity 1023.

Water, . . . 893.43.

Solid Matter, . 106.57	{	Extractive matter, soluble in water and alcohol,	. . . 1.32
		Extractive matter, soluble in water only,	. . . .58
		Fixed alkaline salts,	. . . .8.81
		Albumen and earthy salts,	. . . .95.86

Traces of urea were detected in the alcoholic extract.

The urine was examined on the same day. The reaction acid, and the specific gravity 1020. It contained albumen; and, upon standing, a deposit subsided, which was found to consist chiefly of very transparent and slightly granular casts.

Water, . . . 946.80

Solid matter, . 53.20	{	Organic matter,	. . . . . 37.81
		Fixed salts,	. . . . . 15.39

is greatly relieved by the free action of the skin. We know how much good is done by this mode of treatment in the acute inflammatory states of kidney when dropsy is present, as after exposure to cold and after scarlet fever. But as the sweating process by the hot-air bath is a very debilitating process, I proposed to diminish this weakening effect by having the patient splashed with cold water after each sweating bath. In this way he was able to take a hot-air bath every alternate evening.

He has also had scruple doses of the bitartrate of potass three times a day, with a view to promote the excretion of water by the kidneys; and, from time to time, we have given him a brisk saline aperient. He has been kept on a moderate allowance of animal food, without beer or stimulants of any kind.

Our patient began this treatment on the first of July; he is now, therefore, nearly a fortnight under it, and, so far, with promising results. There has been no fit since his admission, although he has had sensations of giddiness and of noise in his head, such as he has been long subject to, and such as have usually preceded a fit.

His general appearance and condition are improved. The quantity of urine varies from two to three pints; occasionally, only a pint and a half; and the albumen is notably diminished, and the specific gravity on the average 1015.

[This patient remained under treatment until the beginning of September, upwards of two months. The hot-air bath was continued till the 26th of August, when, as he seemed weakened by it, and as there was but a very small quantity of albumen in his urine, it was given up. The bitartrate of potass was changed for small doses of quinia, and he improved so much that he was allowed to go to the country. He came twice to the hospital, at intervals of a month each time, to report his condition; and it was found that his fits had disappeared since the treatment began while in the hospital, and that they had not returned after he had left it; the albumen had likewise ceased from his urine; so that for the months of July, August, September, and October, he was free from epilepsy. How long this favorable state continued, I have no means of knowing for he went at the end of October to his native country, Cornwall, and we have not heard of him since.]

As to the future of this case, all will depend upon the state of the kidney. If the man be placed under favorable circumstances, such as will help the action of his skin, and promote a healthy general nutrition, and will observe a rigid diet, and abstain from stimulants, these promise best for the restoration of the normal condition of that organ, and for averting the attacks of epilepsy.

ART. 38.—*On Epilepsy.* By Dr. CAMPS.

(*The Lancet*, May 27, 1854.)

In a paper recently read before the Medical Society of London, Dr. Camps maintained 1st. That epilepsy has its origin, anatomical seat, not so much in the brain and in the spinal cord, as in the organic system of nerves, although many of its symptoms, or the morbid phenomena which characterize it, are those which belong to the cerebro-spinal organs, these being the expressions of parts or organs not primarily but secondarily affected. 2d. That epilepsy in many cases may be regarded as little more than an irregular form of intensified hysteria. 3d. That epilepsy is to be regarded more as a disease of debility than as a disease of irritation or excitement, although these may be present at times as the consequences of debility; and 4thly (which follows from the last proposition), that epilepsy is to be most successfully treated by tonics and by sedatives.

ART. 39.—*Gymnastics in Chorea.*

By M. BLACHE, Physician to the Hôpital des Enfants at Paris.

(*Comptes rendus*, July 19, 1854.)

In a paper recently read before the *Académie de Médecine*, M. Blache speaks very highly of gymnastic exercises as a means of treatment in chorea. M.

Blache directed attention to this subject in 1834, in the article on chorea in the *Dictionnaire de Médecine*; it was first carried into effect in 1847; and since this time it has been repeatedly tried and approved. In the paper 108 cases are cited in illustration. Of this number 34 cases were of moderate severity, and 73 were as bad as possible. The 34 cases of moderate severity were cured, without exception, in a mean period of 26 days, and of 18 lessons of an hour's duration. Of the 14 severer cases, 68 were cured in a mean period of 45 days and 31 lessons; and the remaining 6 in 122 days and 63 lessons. Not one resisted the treatment.

In the more severe cases the first thing was to use friction, and passive movements of the limbs and body, the patient lying upon his back in bed; then the patient was taught to go through certain regular and rhythmical movements, the time being indicated by music or in some other way; and last of all he was sent into the gymnasium and put through the usual exercises. Under this treatment the aching pains, which are so constantly complained of by choreic patients, speedily disappeared, and the mind and body rapidly acquired tone.

M. Blache considers that the benefits resulting from this treatment might be greatly enhanced by combining it with the treatment by sulphureous baths—a treatment which, in his opinion, has been proved to be more effectual than any other, and which is nearly as effectual as the one under consideration.

ART. 40.—*Chloroform in Tetanus.* By —.

(*Medical Times and Gazette*, June 17, 1854.)

In a series of 43 cases of tetanus occurring in various British hospitals, and recently reported in several numbers of the *Medical Times and Gazette*, chloroform was tried in twelve instances, of which eight died, and four recovered. Of these four recoveries, in the reporter's opinion, "there was not one in which it seemed to be reasonable to refer the event exclusively, or even principally, to the influence of the anæsthetic, and more than one had got into the list of protracted, and therefore hopeful cases, before it was resorted to." His conclusions are:

"1. That, in the majority of cases, inhalation of chloroform, may be practised with safety as regards immediate consequences.

"2. That it is always effectual in allaying spasm for the time.

"3. That it exerts, however, no preventive influence whatever, the spasms usually returning, with even increase of severity, very shortly after its suspension.

"4. That its continuous administration over long periods of time is not to be recommended, since the patients sink at least as fast, if not faster, than when the disease is allowed to display itself.

"5. That it is of great benefit in certain protracted cases simply as an alleviant of the pain. In some of these it will procure rest for periods often of an hour or more after the suspension of the inhalation, and acts altogether much more favorably than in the earlier stages.

"6. That, in certain protracted cases, it is of the greatest use in enabling a patient, while in a state of half-insensibility, to take food, who would otherwise be unable to swallow.

"7. That, excepting for the two last-named purposes, its use does not seem to be attended by any commensurate benefit, while it may much interfere with the action of other remedies, and, very possibly, be actively injurious itself.

"These conclusions must be understood to apply only to chloroform inhalation, since, from the cases published, there appears reason to believe that the results of ether inhalation have been more favorable. As, however, the latter agent has not been, of late years, used in London, we have no means of judging as to the proportion of cases, in which it did not relieve, or whether in any it appeared injurious."

(C) CONCERNING THE RESPIRATORY SYSTEM.

ART. 41.—On Pulmonary Congestion, considered as a constant element in acute maladies. By Dr. WOILLER.

(*Archiv Gén. de Méd.*, April and May, 1854.)

In these papers, Dr. Woiller wishes to show that a state of pulmonary hyperæmia or congestion is always set up concurrently with the development of acute febrile maladies, a state which he calls *the pulmonary congestion of acute maladies*. This congestion has three periods—of progress, of height, and of decline, in keeping with the periods of the accompanying maladies, except in the febrile exanthemata, where it diminishes when the eruption makes its appearance. It is indicated by expansion and diminished elasticity of the chest, by puerile respiration, by feebleness of the respiratory sound, with or without sonorous râles, and sometimes by crepitation, and, last of all, by dullness in the posterior parts of the chest. As a rule, there is neither cough, nor dyspnoea. As the fever subsides, this congestion subsides, and the pulmonary symptom does not claim any remedial interference except it passes beyond due bounds.

ART. 42.—Case of fatal Asphyxia caused by the detachment of a diseased bronchial gland, and its impaction in the larynx. By Mr. EDWARDS, of Wolverhampton.

(*Medico-Chir. Trans.*, vol. xxxvii. 1854.)

This very curious case appears to be unique. It occurred in a child, eight years of age, who was suddenly seized with symptoms of a fit whilst at play. He was quickly carried home, became violently convulsed, although retaining consciousness and the power of utterance: the countenance became extremely anxious, and he uttered the expression that he should die. In the hurry of the moment there was no opportunity of getting any distinct knowledge of the previous history, beyond the surmise that the boy had swallowed something. The trachea was immediately opened, a little air issued from the opening, artificial respiration was attempted, but without effect, as the child gave but two gasps after the operation, and died. The *post-mortem* examination revealed the presence of a foreign body touching the under surface of the epiglottis, and extending through the *rima glottidis* into the larynx; the substance was whitish, and covered with mucus. On a very slight examination, it was evident that the body was a bronchial gland. Upon slitting open the trachea, the spot from whence the gland had issued was soon observed; it was on the posterior part of the right side, just above the bronchial bifurcation. The opening was ragged and irregular, and communicated with a cavity behind, sufficiently large to contain a nutmeg. No other evidence of disease was observed. It was an interesting point to consider whether the suppuration commenced with the gland, or had ulceration taken place around it? Again, did the gland at once pass into the trachea, or was it a gradual process? The author offered some observations on the relation the case bore to certain medico-legal points. The detached mass had been examined by Mr. Quekett. It was of irregular shape, contracted in the centre, and of a light bluish color, streaked with black and white. Its outer surface presented traces of epithelium and mucus; one part was coated with what appeared to be inspissated mucus. These sections were found to be made up of rounded cells, connected together by fibrous tissue. Two sections of bronchial glands were examined for the sake of comparison. A similar structure in all respects was observed, and Mr. Quekett was of opinion that the impacted substance was a portion of an enlarged bronchial gland.

ART. 43.—Oils as prophylactic of Phthisis. By Dr. THEOPHILUS THOMPSON.

(*The Lancet*, Aug. 5, 1854.)

In his Lettsomian lecture on the treatment of pulmonary phthisis, Dr. Thompson says:—

“If hereditary tendency to phthisis exists in any family, it is surely of great

importance to anticipate the pulmonary era, and introduce oleaginary medicines at an early period. The practice of daily inunction with preparations of neat's-foot, or cocoa oleine, might, I conceive, prove of peculiar efficacy."

ART. 44.—*The treatment of Phthisis by Iodine Inhalations.* By M. PIORRY.

(*Comptes rendus*, Jan. 24, 1854.)

We take the following extracts from a paper read before the Académie de Médecine. M. Piorry writes:—

I was induced to employ iodine and the vapors of iodine in the curative treatment of pulmonary phthisis by the following circumstances. It was known that iodide of potassium possessed a real and even prompt efficacy in chronic ostitis and periostitis, in scrofulous glandular enlargements, and in many other affections more or less allied with tuberculosis; M. Deyne, an interne of my service, and I, concluded that this remedy would be useful in phthisis (pneumophymie). The results of our experiments were very satisfactory. A striking amelioration took place in many of our patients, and this amelioration was real, for of the patients mentioned in my work on Practical Medicine, three or four are still living, and in the enjoyment of good health.

After the successful treatment of hydrocele and tuberculous diseases of the testicle by iodine injections, it was natural to attempt to obtain similar results in pulmonary excavations. It would have been difficult, if not impossible, at all events it would have been extremely rash to have injected tincture of iodine into the air-passages. We therefore bethought ourselves of the vapour of iodine.

In hospital practice it was necessary to select the simplest methods of inhaling iodine. One or two scruples of iodine were accordingly placed in a wide-mouthed jar of the capacity of a quart; the vapour of it was disengaged spontaneously with more or less rapidity according to the degree of heat and moisture of the atmosphere.

When we used the tincture of iodine, we poured from one to three ounces in the jar, and heated it until the vapors of alcohol and iodine were liberated.

The patients breathed the air contained in these recipients, and charged with alcoholic and iodine vapor. One inspiration at a time is sufficient, but it should be deep, as when a sigh is heaved. Such an inspiration produces little irritation of the air-passages; it should be repeated one or two hundred times every day, at intervals, for several successive inspirations produce pain in the larynx and bronchi, and cough.

Even during sleep the patient should inhale iodine. For this purpose several saucers, each containing one scruple of iodine, should be placed about the pillow. At the hospital, we attach numerous phials of iodine to the iron frame which supports the bed-curtains. The air thus becomes saturated with iodine; the starched curtains are coloured blue, and the iron of the bedsteads assumes different tints under the action of the iodine.

If a moist starched paper is interposed between the jar containing iodine and the patient's mouth as he takes an inspiration, it turns blue; if the same air, after traversing the lungs is breathed upon the paper, it causes no change. The inference from this fact which I have observed very frequently, is that the iodine which entered the lungs is absorbed there, during the brief sojourn of the air in the air-vesicles.

The majority of the patients subjected to this treatment at *La Pitié*, *La Charité*, and in my private practice, took also from twenty to sixty grains of iodide of potassium daily. In all those cases in which the extent of the lesions rendered it probable that adhesions, or that remarkable supplementary circulation so well described by Natalis Guillot, existed between the pulmonary and costal surfaces, we had recourse to frictions with tincture of iodine diluted with 19 parts of water. The patients were placed, in some cases, under other modes of treatment: 1. Under the use of tartar emetic in small doses, the fifth of a grain, for example. This heroic remedy was employed chiefly in those cases in which mucous, puriform, or purulent liquids accumulated in the bronchi, and produced a tendency to asphyxia or hypoxæmia. 2. Under the use of astringents, when

the state of the intestinal canal required it, alum, opiates, phosphate of lime, subnitrate of bismuth, &c., were employed with this object, but their use was discontinued as soon as the diarrhoea was suppressed. 3. Under the use of quinia; in large doses when the spleen was congested; in small doses when there was simply a nightly exacerbation of fever depending upon the entrance of pus or softened tuberculous matter into the circulation. 4. Upon a nutritious and reparative diet; a very important point, for surely, if I was called upon to choose between hygienic precautions and the whole category of remedies besides iodine, I should give the preference to a good regimen. 5. Belladonna, opium, and other narcotics were employed, though rarely, to moderate the cough.

The cases which I have treated have not required the use of setons, issues, permanent blisters, or moxas, and I have not been able to comprehend the utility of these artificial pyogenic lesions in a disease in which the formation of pus is a disastrous accident.

Almost all of the patients remained in Paris. They were not sent to Nice, or Pisa, or other parts of Italy, a country where phthisical patients, coming from the north, in spite of all that has been said, recover no faster and no better than elsewhere.

Thirty-one patients have been subjected to the treatment thus described during the past two years. They all presented, in different degrees, the symptoms commonly attributed to pulmonary phthisis; that is, cough with puriform expectoration, hectic fever, emaciation, the majority of them suffered from diarrhoea, connected probably with tuberculous ulcerations; in many the larynx appeared to be involved in tuberculous disease, the majority had spit blood.

All of these subjects presented marked dulness at the summit of the lungs, either under the clavicle or at the superior scapular region. In most cases there was a hardness at these points, perceptible to the finger. Ordinarily it was possible to define the diseased structure accurately, and to distinguish the parts in which there was great condensation from those which had undergone less alterations of structure. In some cases a *bruit hydraërique* could be heard.*

In every case the stethoscopic signs were as positive as those revealed by plessimetry. At the points at which dulness and resistance had been noted, the ear recognized rude or tubal respiration, and more or less resonance of voice. In many cases large cavities were indicated by loud gurgling, cavernous respiration, and pectoriloquy. Each patient expectorated round, opaque, nummular sputa, the amount of which corresponded with the extent of the disease as determined by other methods of exploration.

I desired to appreciate the effects of iodine with precision, and therefore I did not trust to the indications of plessimetry. I ordered charts, on which were described exact delineations of the diseased parts, and representations of the variations in sound upon percussion which occurred from day to day. In casting the eye over these figures, it will be seen that after four, six, or twenty days, six weeks, or three or four months of the iodine treatment, there was in almost every case a diminution in the extent of the surface over which there was at first feebleness of respiration, dulness, resistance, &c., that, at the same time, the stethoscopic signs indicated an amelioration in the condition of the condensed portions of lung. This result did not occur only in those patients who were slightly diseased, but in almost every case. Numerous patients with cavities in the lungs were apparently cured. The ultimate results were as follows: Decided amelioration in the symptoms and anatomical characters in 20 patients. Disappearance of the anatomical characters and of most of the symptoms in 7 cases. Death, with or without amelioration, in 4 cases.

After some reflections upon the possible manner by which iodine operated in the cure of phthisis, M. Piorry concludes with the following propositions:—

"1. The inhalation of the vapor and tincture of iodine is useful in the cure of phthisis.

"2. In many cases such inhalation is followed by a diminution in the extent

* The sound obtained by percussing over a cavity containing air and liquid. Percussion over the caecum during typhoid fever often gives excellent examples of it.—TRANS.

of the indurated parts surrounding tuberculous deposits, and an amelioration in the general symptoms;

"3. It is probable that tubercle itself disappears under the influence of iodine inhalations;

"4. That inhalations of the tincture of iodine may promote the cure of tuberculous cavities;

"5. That after the softening of tubercles, the resulting cavities may cicatrize spontaneously;

"6. That compression of the thorax over the points of disease indicated by percussion and auscultation, may contribute to the cure of the local lesion, and to the prevention of pyæmia;

"7. That iodide of potassium administered internally, and frictions with diluted tincture of iodine over adherent portions of the lung, are also of great utility.

"If," adds M. Piorry, "any useful therapeutical facts have been brought out in the preceding essay, I would observe that science and humanity are indebted for them to the progress of accurate diagnosis."

ART. 45.—*On Paracentesis Thoracis.* By Dr. J. RISDON BENNETT.

(*The Lancet*, June 10, 1854.)

In this paper, Dr. Bennett's chief object is to inculcate the importance of not hastily resorting to this operation in cases of inflammatory hydro-thorax. He founds his objection to this proceeding in the early stage of the disease, on the non-necessity of the measure, on the amenability of the disease to general treatment, and on the mischief likely to arise from puncturing the cavity of the chest. In order to show the non-necessity of the operation, he relates a number of cases, in which there had been a large collection of serum in the chest, but which had been absorbed under general treatment, and the use of counter-irritants, consisting either of blisters, or of the application of a strong solution of iodine. The general treatment consisted of very small doses of blue pill, with squill and Dover's powders, and infusion of cascarrilla, with iodide of potassium, and sweet spirits of nitre. The patients were placed under non-stimulant but nutritious diet. Dr. Bennett objects to the use of mercury—to the production of the specific effect of that medicine, which he regards as injurious. He relates a case, to which he had been called into in the country, of hydro-thorax in a young gentleman, in whom the symptoms were not of such an urgent character as to require operation. He recommended the employment of remedies similar to those which have been mentioned, and with every prospect of their being useful. Another physician was called in, however, before a fair trial was given to the measures proposed, and paracentesis was performed. The fluid was serum; but on a second operation being required, about three weeks afterwards, the matter evacuated was purulent. This illustrated one of the dangers to which tapping exposed a patient suffering from hydro-thorax. With respect to the diagnosis of the nature of the fluid in the chest, this could be determined without danger by the passage of an exploratory needle. If the fluid were found to be purulent or to contain albuminous flakes, Dr. Bennett recommends a gradual and continued drain of the fluid rather than its sudden removal.

ART. 46.—*Lumbrici in the Pleural Cavity.* By Professor LUSCHKA.

(*Archiv für Pathol. Anat.*, Bd. vi.; and *Medico-Chir. Rev.*, Oct., 1854.)

Lumbrici have been found in many parts of the abdomen, and even free in the peritoneal sac; but Professor Luschka communicates an extraordinary case, in which, through the intermediate process of a retro-peritoneal abscess, four lumbrici were found encysted in the left pleura.

A man, æt. 23, who two years before had had slight peritonitis, suffered, in 1852, from return of this complaint, with pain in the left lumbar region; death ensued, with typhoid symptoms. In the left pleura, between the lower lobe of the lung, the thoracic wall, and the diaphragm, there was a sac formed of pseudo membrane, in which six lumbrici and a large quantity of brown fluid were con-

tained. An opening in the diaphragm led into a cavity formed by adhesions between the upper end of the descending colon, the left kidney, and the diaphragm, and in which some lumbrici were also contained: this cavity, or abscess, communicated with the descending colon by three contiguous openings, situated on a level with the under part of the spleen. In the colon there were also lumbrici.

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 47.—Cases of "*Pneumathemia*." By DR. CLESS.

(*Ueber Luft im Blute in pathologischer Beziehung*, Stuttgart, 1854; and *Medico-Chir. Review*, Oct., 1854.)

From the review of Dr. Cless's book in our contemporary, it does not appear that much new light is thrown upon the pathology of this obscure disorder. There is no analysis of the air, and there is no definite information as to the source of the air. Dr. Cless considers that the absence of all signs of decomposition in the great majority of cases, and the suddenness of death—which is often like that caused by the accidental admission of air into the veins,—together with the fact that air can be secreted from certain organic membranes, and that it has been found in the vessels in a few instances, as after death from hydrophobia, tetanus, and chloroform—is an argument that the air has been produced during life, and that *pneumathemia*, as he calls it, is a true disease; but he has no more precise information to convey.

Dr. Cless gives a table of eleven cases of the same kind, and refers to five others, which lead to the supposition that this disease is not so uncommon as is supposed.

His cases are as follows:—

"CASE 1.—A woman, æt 21, was admitted in the Katherine Hospital, at Stuttgart, on the 29th of July, 1851, with symptoms of a 'gastric fever,' of medium intensity, and with some catarrhal affection. At the commencement of the second week, the cough was well, the fever trifling, and with a tendency to an intermittent type. Sulphate of quinia was ordered. Three days later, on the 10th of August, the patient was suddenly seized with a convulsive affection, without perfect loss of consciousness; the convulsion lasted about fifteen minutes, and was followed by shivering, heat, and sweating. About an hour afterwards there was bilious vomiting, and a lumbricus was thrown up. The next three days and nights she was tranquil. On the morning of the 12th of August, when visited by the physician, she expressed herself as feeling comfortable; she had eaten her breakfast with some appetite, she was rather giddy when she went to stool, but otherwise had no head-symptoms. The tongue was cleaner than the day before; the respiration was perfectly easy; the face was a little flushed; the pulse quick (100), full, and weak. A quarter of an hour later the physician was sent for by the nurse. On his arrival the patient was dead. It appears that the adjoining patients saw her suddenly move in the bed, then become convulsed (apparently like *opisthotonos*), gasp for breath, sigh, and sink down in bed: all this occurred in about two minutes; she was seen the moment after, but was without sign of life.

"The body was opened thirty hours after death, in very hot weather. There was no sign of commencing putrefaction. The brain was quite normal; there was no air in the vessels of the *ma mater*; there was no fluid in the pleuræ; the lungs were emphysematous, with some lobular collapse, there was no trace of decomposition. In the pericardium there was a little serum. When the heart was laid bare, a remarkable globular distension and bulging of the right auricle and ventricle was observed. When the operator rather hastily cut into the ventricle, to all appearance a gas issued out, with a hissing noise, as in pneumothorax, and the ventricle collapsed. The ventricle and auricle being fully opened, was found to contain a moderate quantity of coagulated blood in which were no air-bubbles; the endocardium was stained deeply red. The left ventricle showed no distension with gas like the right side, but there were some little

bubbles of gas in the partly coagulated blood. The heart was healthy: in none of the vessels was there any appearance of air. A little frothy blood exuded from the liver on section, but the blood from the other organs was not frothy. The spleen was enlarged and soft. In the ileum there were numerous nodules from infiltration of the solitary glands; Peyer's patches were not much infiltrated, but were rather swollen and had many dark points. There were many lumbrici in the intestines: the mesenteric glands were generally normal; three or four, corresponding to the lower part of the ileum, were swollen, and had a dark color. Kidneys, uterus, and ovaries, were normal.

"Dr. Cless believes the case to have been one of mild *typhus abdominalis* (typhoid fever). He remarks that sudden death, with apparently slight symptoms, is not excessively uncommon in this disease, and after death nothing may be found, except the usual indications of *typhus abdominalis*. But in more than 1200 examinations of bodies, in various diseases, he never saw such a collection of air in the heart. This air could scarcely be a product of decomposition, as there was no evidence of such taking place in any other part of the body, and as local decomposition in the heart alone is a thing unknown in the records of *post-mortem* examinations.

"CASE 2.—A girl, æt. 14, was admitted on the 16th of July, with *typhus abdominalis* (typhoid fever); the bronchitic complication was severe. Seventeen days after her admission, she appeared extremely well; when visited on the morning of the 2d of August, she was found to have slept well, and to have no trace of breathlessness, or other noticeable symptom. At 7 A.M. she coughed a little, as usual, and put out her hand to take the spitting cup; suddenly, she breathed with great difficulty, became livid in the face, stretched out her arms and fingers spasmodically, and fell back dead. All this did not occupy more than from one to two minutes. On section, twenty-six hours after death, in moderately warm weather, there was no trace of decomposition. Besides the customary appearances of typhoid fever (infiltration of Peyer's patches, enlargement of the spleen), there was air in the large veins of the neck, in the right auricle and ventricle, and in the blood exuding from the liver; and the blood on the right side of the heart also contained air. In the veins of the *pia mater* there was also air, but Dr. Cless attaches no importance to this common phenomenon. The blood throughout the whole body was fluid."

ART. 48.—*Case of Arterial Plugging.* By DR. GIBBON,
Assistant-Physician to the London Hospital.

(*Pathological Transactions*, Vol. v., 1854.)

The patient, in this case, was suffering under puerperal phlebitis, with abscess in the spleen. The artery obstructed was the left middle cerebral.

CASE.—The patient, an apparently robust woman, æt. 20, was admitted into the London Hospital, on the 7th of March, 1854. At that time she was weak, pale, and anxious. Her left lower extremity was enormously swollen, painful, and pitted on pressure. But no indication could be felt in the course of the superficial veins and lymphatics. Her pulse was 120, small and feeble. Her sleep was stated to be disturbed and unrefreshing.

She stated that she had always enjoyed remarkably good health, and had given birth to her first child by an easy labor. Ten days before, she had caught cold by imprudently getting up on the third day after delivery; then the swelling of the left leg commenced with rigors. It had been treated by leeching and low diet.

Under the use of a liberal diet and stimulants, together with quinia and morphia, she improved up to the 13th; then severe rigors and great febrile disturbance, with relaxed bowels, set in and continued, with occasional vomiting, up to the time of her death, which took place on the 13th of April.

The rigors, which lasted about half an hour, recurred twice in the twenty-four hours, at noon and midnight, with singular regularity.

On March the 25th, about noontime, she became suddenly hemiplegic of the right side, her mouth was drawn to the left side, she was unable to speak, but

retained her consciousness. In this state she continued, without any contraction of the muscles, or dilatation of the pupils.

Post mortem.—The vessels of pia mater were remarkably deficient in blood. Those over the convexity of the left hemisphere so empty and colorless that they could not be readily traced. The vessels on the base of the brain were free from disease, but the left middle cerebral artery was obstructed at the junction of its first branch by a firm yellowish clot, and for about the space of half an inch on either side of this clot, the vessel was filled with coagulated blood. The sub-arachnoid spaces and cerebral ventricles contained an amount of serous fluid which is seldom seen in subjects dying at this age.

On laying open the middle cerebral artery, its lining membrane was found to be perfectly smooth and polished, and unattached to the clot. Under the microscope, the clot presented all the appearances of semi-organized fibrin, its section showing fibrillated stræ.

The substance of the brain was generally anæmic, especially in the left hemisphere, where no red points were visible on section. The consistence of the organ was diminished, but not more in one half than the other. The nervous pulp was not diffuent nor in the least disintegrated, but moist, and not so coherent as natural. There was no perceptible difference in the relative firmness of the corresponding corpora striata and thalami optici. The specific gravity of the left seemed to be less than that of corresponding parts of the right hemisphere; as was tested by noting the different rapidity with which equal and corresponding portions of the brain sank in water. By this test the specific gravity of the left optic thalamus seemed to be most diminished. There were evidences of recent circumscribed pleurisy, and the subjacent portions of the lungs were of a darker color than natural, with here and there yellow spots and patches; they were moreover non-crepitant, resilient, and sank in water. Section of those portions showed the ordinary appearance of purulent infiltration, with here and there larger circumscribed collections of pus. The bronchial tubes were filled with puriform mucus. The pulmonary veins contained recent vermiform clots, but were free from old and firm clots of fibrin, as were also the pulmonary arteries. The heart was uncontracted, the right auricle contained a loose dark clot; the right ventricle about three ounces of fluid blood. No deposits on any of its valves, which were perfectly healthy. The blood was fluid, except in the inferior cava, common iliacs, and both femoral veins, which were filled with firm buff-colored fibrin adherent to their walls. No appearance of suppuration having commenced in any of these veins. The left femoral was much diminished in calibre, and felt hard (cord-like).

Spleen, about twice its ordinary size, having in its lower half a large abscess containing half a pint of well-formed pus. Into this abscess a triangular piece of buff-colored spleen hung, being almost detached from the healthy tissue of the organ above it. On section this portion was unusually firm and dense, and of a dark lilac tint. It had the appearance of a patch of "capillary phlebitis," and doubtless having lost its vitality had excited suppuration. I laid open some of the larger arteries and veins extending into this portion, and found only the arteries filled with fibrin. There were no similar infiltrations into any other organs.

The uterus was healthy, except that its lining membrane, near the fundus, was roughened, but nothing could be scraped from the surface. The vagina was of a livid color, but there was no suppuration around it.

In the course of the sheath of the left iliac and femoral vessels, was a large abscess, extending from Hunter's canal upwards, through the pelvis, to the origin of the common iliac artery. It was external to the sheath, and contained, perhaps, two pints of well-formed pus.

ART. 49 — *Venous Murmur a natural sound.*

By Dr. HERBERT DAVIES, Physician to the London Hospital.

(*Lectures on the Physical Diagnosis of the diseases of the Lungs and Heart*, 2d Ed., 12mo, Churchill, pp. 364, 1854.)

The second edition of the work from which we take the material for this article fully sustains the favorable opinion we expressed upon the first edition (*vide*

"Abstract," vol. XV). It shows that the author has not allowed himself to be left behindhand in the present race after medical excellence.

In addition to the alterations due to the progress of physical diagnosis, during the last three years, this edition contains a *résumé* of the morbid anatomy and the corresponding signs of diseases of the lungs, and a description of the minute anatomy of the pulmonary organs by Dr. Andrew Clarke. It also contains some additional evidence, obtained from an examination of picked men in the Coldstream Guards, in proof of the subject of this article—that venous murmur is a natural sound; and it is to this, and the accompanying evidence, that we now wish to direct attention.

The venous murmur is usually supposed to depend upon a peculiar watery and pale condition of the blood. It is supposed to be a sign indicating anæmia and chlorosis, and requiring iron for its removal. But Dr. Davies disproves this opinion. He writes:—

"The observations which I have made upon more than 1000 persons of all ages, *entirely negative* this exclusive view of the cause of the murmur, inasmuch as they prove that the sound is not only present in the pale, anæmic, and chlorotic girl, but also in individuals of both sexes (particularly the young), who exhibit every appearance of strong and ruddy health.

"Having seen a statement made by Dr. Liman, of Berlin, of the remarkable frequency of the venous murmur in children, I determined to examine a large number of young persons; and, by the courtesy of the medical and official authorities, I was enabled to pursue my inquiries at the Infant Orphan Asylum, Wanstead; the Merchant Seamen's Orphan Asylum, Mile-end Road; the Union and Park House, Clapton; and the London Orphan Asylum; and, to test still further the correctness of my conclusions, I selected for examination a number of fine, rosy children at Limpsfield and Farnham, in Surrey. My observations were particularly directed to the absolute and relative frequency of the right and left jugular murmurs, and to the number of instances in which the sternal venous sound could be detected: and I did not forget to examine the præcordial region for the appearance of valvular functional murmurs.

"The table on the following page gives the analysis of the examination of 802 healthy children, from 14 months to 15 years old.*

"Having proved the extreme frequency of venous murmur in children, I determined to pursue the subject still farther. For this purpose 100 healthy young men, varying between 17 and 23 years of age, belonging to the Provisional Battalion, were kindly placed at my disposal by the Commandant at Chatham (April, 1851). Although the majority of these soldiers presented a ruddy complexion, the following were the results at which I arrived:—

Venous murmur loud on both sides,	.	.	.	.	.	.	.	44
Right venous murmur, loud,	left venous murmur, weak,	.	.	.	.	.	.	16
"	"	weak,	"	"	loud,	.	.	11
"	"	distinct,	"	"	absent,	.	.	3
"	"	absent,	"	"	distinct,	.	.	1
Traces on both sides,	.	.	.	.	.	.	.	10
Absent on both sides,	.	.	.	.	.	.	.	15
								100
Sternal venous murmur present in	.	.	.	.	.	.	.	11

"An examination of 50 picked men of the Coldstream Guards, whose ages ranged from 21 to 27 years, gave the following result. The observations were made (Feb., 1854) in the presence of Surgeon-Major Dr. Munro, and the men were the *finest, healthiest, and ruddiest* men in the corps.

* For the examination of children, a stethoscope must be employed, which has a small end, not exceeding the size of a sixpence. The want of this precaution has probably caused the frequency of the venous murmur in children to have been overlooked by former observers. The investigation of the murmur in adults must be also conducted with some address, as the sound will be observed only in certain positions of the neck, and with certain degrees of pressure, to be found by repeated trials.

Venous murmur very loud on both sides,	23
Right venous murmur, loud, left venous murmur, weak,	13
" " weak, " " loud,	6
" " distinct, " " absent,	2
" " absent, " " distinct,	2
Absent on both sides,	6
	50
Sternal venous murmur present in	6

	Wanted Orphan Asylum	London Orphan Asylum	Merchant & Orphan Asylum	Hackney Union	Park House, Clapton	Limpfield Surrey	Farnham, Surrey	Total
Venous murmur loud on both sides,	Male, 77 Female, 84	68 52	40 27	25 38	31 23	21 20	14 0	276 249
Right loud, left weak,	Male, 31 Female, 33	16 18	6 8	4 2	7 2	3 8	4 0	68 71
Right weak; left loud,	Male, 14 Female, 9	10 2	2 3	3 3	3 1	3 1	1 0	56 19
Right distinct, left absent,	Male, 2 Female, 4	0 5	1 3	1 0	1 0	1 2	0 0	6 14
Right absent, left distinct,	Male, 0 Female, 1	0 0	0 0	0 0	0 0	0 0	0 0	0 1
Traces on both sides,	Male, 6 Female, 0	4 6	0 0	0 3	1 4	0 1	0 0	11 16
Absent on both sides,	Male, 13 Female, 8	5 7	0 1	0 0	1 0	0 1	1 0	20 17
Total,	Male, 143 Female, 139	102 90	40 42	31 47	44 26	28 31	30 0	417 385
	282	192	91	78	80	59	30	602
STERNAL VENOUS MURMUR.								
	Male, 29 Female, 36	18 10	6 6	6 10	10 7	7 6	3 0	78 74
Total,	65	28	11	16	17	12	3	152

"An examination of 53 healthy females, at the Female Asylum, Dalton, and at St. Luke's Union, gave the following result. These persons varied from 16 to 28 years of age.

Venous murmur loud on both sides,	17
Right venous murmur, loud, left venous murmur, weak,	13
" " weak, " " loud,	3
" " distinct, " " absent,	3
" " absent, " " distinct,	1
Traces on both sides,	9
Absent on both sides,	7

Sternal venous murmur present in	53
	8

"Subsequent inquiries showed that the venous murmurs became less frequent after the prime of life, although the jugular may be sometimes heard in extreme old age. Between the ages of 30 and 60, I have, in many instances, found the continuous murmur in the neck, but the sternal sound in only one or two cases. I have never been able to detect the latter in persons beyond 60 years of age.

"The following table gives the result of an examination of 67 old people of both sexes:—

Females 5, from 50-60 years of age, 1 right ven. mur.	4 absence of sound.
" 17 " 60-70 " 1 " " 16 " "	
" 24 " 70-80 " 2 " " 21 " "	
" 2 " 80-90 " 0 " " 2 " "	
48	43

Males 2, from 50-60 years of age,	2	absence of sound.
" 6 " 60-70 " 2 right ven. mur.	4	" "
" 11 " 70-80 " 1 " "	10	" "
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19	3	16

"In none of these latter cases, male or female, was the sternal venous murmur present.

"In confirmation of these statements, I find Wintrich* has given the following as the result of his investigations into the frequency of the venous murmur in healthy individuals. The percentage is as follows:—

Age.	Males.	Females.
1- 5	97	98
5-10	94	95
10-15	89	95
15-20	86	88
20-25	82	88
25-30	80	86
30-40	80	86
40-50	77	78
50-60	72	75
60-70	68	71
70-80	40	39

—a ratio which, for ages beyond 30, I have not been able to substantiate.

"The facts, however, which I have collected will, I think, allow us to establish the following conclusions:—

"1. That the venous murmur does not necessarily depend upon any abnormal condition of the blood, nor upon any deviation from the health of the individual in whom it may be found, for we have observed it to be almost universal in children, to be present in a large proportion of persons under the age of 25 years, and to exist occasionally in the aged—all in the most perfect health. It is not, therefore, an anæmic or chlorotic murmur, although uniformly present in those conditions of the system which are marked by an impoverished condition of the blood, inasmuch as it has been observed in a multitude of instances to co-exist with the ruddiest complexion and the most perfect health.

"2. That the venous murmur is not entirely the result of pressure, although some portion of the sound may be fairly attributed to that cause. The existence of a sternal venous murmur at a spot upon which no pressure can be exerted by the stethoscope, is a sufficient proof that sound can originate in the venæ innominatæ, independent of any compressing cause; and if in these veins, why not in the jugulars also?

"If, then, these murmurs can neither be attributed to the transit of thin and impoverished blood through the veins, nor to the effects of external compression upon the parietes of these vessels, in what mode are we to explain their origin? I believe very easily. There can be no doubt that the rapidity of the blood in the large veins is usually sufficient to establish a friction capable of causing a sound, which is more or less audible according to the readiness with which the parietes of the veins take up the vibrations, and the facility with which the latter are conducted to the outer surface of the body. The three elements in the production of the murmur in healthy individuals are, therefore,—

"(1) A certain velocity of circulation;

"(2) An elastic condition of the parietes of the vein;

"(3) A good conducting medium between the vein and the surface;

the imperfection of any of which will produce a corresponding diminution in the resulting murmur. The sound is of such frequent occurrence in the healthy child, in consequence of the rapidity of its circulation, the thinness of the parietes of the veins, and the elastic nature of the skin and its subjacent structures. The same reasons apply with equal force to the chlorotic girl, whose 'sharp knocking heart' indicates an amount of ventricular contraction sufficient to produce an abnormal velocity in the general current of the circulation. The

* Goschen's Deutsche Klinik, 1850. Vide also Medico-Chirurgical Review, vol. ix., 1852, p. 501.

thin and impoverished condition of the blood, which is an undoubted condition of chlorosis, will also tend to the maintenance of the velocity and to the production of an unusual friction in the veins.* The increase of age brings with it a diminution in the rapidity of the pulse, a thickened or corrugated condition of the parts around the vein, and a probable alteration in the parietes of that vessel, by which its elasticity becomes impaired. To these causes, may, perhaps, be added a general diminution in the circulating mass. Hence the unfrequency of the sound after the middle period of life."

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 50.—*Iodine Gargles as curative and prophylactic of Mercurial Salivation.*

By Dr. NORMAN CHEEVERS.

(*Indian Annals of Medical Science*, April, 1854.)

Dr. Cheevers recommends very strongly a gargle containing from two to five drachms of the compound tincture of iodine to eight ounces of water.

In illustration of the *curative* action, he says: "In February, 1852, I attended an officer, æt. 48, in an attack of cholera, which was then raging epidemically in Chitlagong. The disease was generally attended with extreme danger, and in this case was one of remarkable severity. During the first sixteen hours, I administered 75 grains of calomel. On the third day the sputa became tinged with blood, the gums were swollen and tender, and the spaces between the teeth were filled with coagula. A gargle, containing two drachms of compound tincture of iodine to eight ounces of water, removed all traces of salivation so effectually within about two days, that my patient, although a very intelligent man, and a rather active dabbler in physic, never appeared to be aware that he had been subjected to mercurial treatment.

"Early in last year I was called to attend a lady, about 34 years of age, who had been suddenly attacked with an excruciating pain across the umbilical region, which appeared to be associated with a sudden check to the catamenial function, resulting from exposure to a draught while very thinly clad. The symptoms were extremely urgent, and a dose of ten grains of calomel was among the first remedies employed. Relief was obtained almost at once; but, on the second day, the tongue was found swollen, and clots occupied the interspaces of the teeth, but little uneasiness was complained of. The iodine gargle was employed with such rapid success that the patient scarcely referred a second time to the condition of her mouth."

In illustration of the *prophylactic* action of these gargles, he writes: "Of late I have been in the habit of beginning to employ the gargle in all cases where the quantity of mercury given has been such as to render the occurrence of salivation probable. Judging from a confessedly very limited experience of this measure, I apprehend that its early employment will anticipate the occurrence of salivation in all cases where the constitution is good, and there is little or no visceral disease, that, even under the worst circumstances, it will greatly limit the severity of the action; and that, for the most part, the original disease, on account of which mercury was administered, will have its decline rather favored than otherwise by the absorption of iodine from the mucous membrane of the mouth. A certain degree of doubt will, of course, attend nearly all details of prophylactic treatment, but I think that the following cases may be regarded as encouraging.

"Early in the last rains I was requested to visit a medical officer suffering extremely from an attack of ileus, which I attributed to the sudden outflow of a

* The fluid portion may increase in chlorosis, scurvy, and Bright's disease, from the normal 775 to the abnormal 870, 849, and 880 in 1000 parts by weight of blood (Simon's Chemistry). Although blood of such diminished density might be supposed, *ceteris paribus*, to be more readily drawn into vibration than healthy blood, still the venous murmur in such cases is frequently not so loud as in healthy and ruddy individuals, in whom the current of the circulation is maintained to full vigor by a firmly contracting heart. At the same time, hydremia must be considered to be a predisposing cause of murmur, venous as well as arterial.

quantity of a highly vitiated bile, acting as an almost corrosive irritant upon the mucous membrane of the small intestines. When called to him, I found him greatly weakened by intense pain and obstinate vomiting, and by oozing from the bites of several leeches which he had himself applied to his abdomen. He had already taken three or more five-grain doses of calomel, which, however, had not acted upon the bowels. I administered a ten-grain dose almost immediately; and, the disease remaining obstinate, a scruple dose was recommended by Dr. Miller, who met me in consultation, and was given on the following day. The iodine gargle was employed early; and although it was nearly certain that a large proportion of from forty-five to fifty grains of calomel must have fully entered the system, ptyalism did not occur.

“In October last I attended the children of a European, for mumps, which was then rather prevalent in Howrah and its vicinity. All these children had suffered from hooping-cough during the preceding winter. The elder boys did well; but the two youngest, aged respectively about two and four years, were suddenly attacked with laryngitis as the swelling of the parotids began to decrease. Although very actively treated, the younger infant died in little more than twenty-four hours from the onset of the laryngeal symptoms. I found the larynx and trachea absolutely occluded by an exceedingly tenacious croupy deposit. The other child's symptoms were equally violent, but he recovered under very severe treatment, a part of which consisted in the administration of fifteen grains of calomel within as many hours. In a day or two, one or two aphthæ appeared on the tongue, yet it could scarcely be said that salivation was present. The gargle was used freely, and no further annoyance was experienced, although the tongue has ever since presented that patchy appearance not unfrequently noticed among delicate children in India.”

ART. 51.—*On the use of Belladonna in profuse salivation.* By Dr. ESPENBECK.

(*Hannover Corresp. Blatt.*, June, 1853; and *Edin. Mon. Journal*, Oct., 1854.)

According to a short statement which is made in the pages of our Edinburgh contemporary, it appears that extract of belladonna, in doses of $2\frac{1}{2}$ grains, in an emulsion, was given to a woman who had been treated profusely with mercury for the cure of enteritis, and who had violent salivation. On the following day the salivation was arrested and the mouth dry. After this the ptyalism returned on suspending the administration of the belladonna, and again disappeared when the use of the drug was resumed.

It appears farther, that M. Espenbeck has employed belladonna successfully as a prophylactic against salivation.

ART. 52.—*On an erysipelatous affection of the Throat.* By Dr. TODD, F.R.S., Physician to King's College Hospital.

(*Medical Times and Gazette*, July 15, 1854.)

In a recent clinical lecture, Dr. Todd re-directs attention to a peculiar affection of the throat, not described in books on medicine, rapid in its course, and fatal in its consequences unless properly treated, in which the prominent symptom is difficulty of swallowing. This difficulty does not arise from any mechanical impediment to the onward passage of the food. The fauces are quite open and the channel free. The mucous membrane is dusky and congested. When this membrane is stimulated by the end of the spatula this difficulty of deglutition is at once explained. The deglutatory muscles cannot be made to contract; they seem paralysed. Dr. Todd says, that he has met with several such cases in private practice, and some in hospital practice, of which one is the following:—

CASE.—The patient is 60 years of age. His health had been pretty good until Wednesday last (Oct. 27th,) when he was seized with shivering, which was followed by fever and loss of appetite; at the same time he experienced some difficulty in swallowing. This last symptom had gradually increased up to the time of his admission on Nov. 2d. Dr. Todd says:—

I shall read to you the description entered in the case-book on this day (Nov. 2), immediately after his admission:—

The patient breathes with some difficulty, as if there were a collection of

mucus in the larynx and trachea. He suffers a good deal of pain, increased by pressure beneath the angles of the jaw, but not much in front over the anterior surface of the larynx. There is no enlargement of the glands of the neck apparent externally. His chief complaint is of difficulty of swallowing. When he attempts to swallow anything, it seems to go the wrong way, and appears as if it would suffocate him. He can swallow a little arrow-root, but even that with considerable difficulty. When the food or fluid which he attempts to swallow gets to the back of the tongue, instead of being guided by the action of the faucial muscles into the pharynx, it seems to fall by its own gravity towards the glottis, and then excites a spasmodic state, which produces a feeling of suffocation and is forcibly ejected, partly through the mouth, partly through the nose. There is no actual impediment to the passage of the food into the pharynx. The tonsils are not at all enlarged, and the pharyngeal mucous membrane looks red and very slightly swollen, and there is a good deal of mucus upon it. When touched with the finger or spatula, the pharynx is not, as in health, thrown into action, apparently in consequence of paralysis of the pharyngeal muscles. The peculiar state of the mucous membrane extends to the larynx, for the epiglottis feels slightly swollen, and he spits up a good deal of mucus. He is very restless, and sleeps badly at night. Bowels confined. pulse 96; respirations 30; urine acid, containing much blood, which, under the microscope, is seen to consist of numerous scattered blood corpuscles, with casts which consist entirely of blood, or of the result of rupture of the Malpighian vessels.

The condition of this man's throat appears to me to be that of erysipelatous inflammation, the poison having fallen with its whole intensity upon the fauces. It is not uncommon to meet with slighter cases of erysipelatous inflammation of the fauces in connection with erysipelas of the head and face. Sometimes the erysipelas begins in the throat, and spreads outwards through the nose and mouth. A patient will first complain of sore throat, and in a day or two afterwards the face will be affected. At other times the sore throat appears to come on simultaneously with the external erysipelas.

In the class of cases to which we must refer that of our patient, no tendency to spread outwards has manifested itself, so far as my experience goes. It does, however, show a tendency to spread to the laryngeal and bronchial membrane, as was particularly observed in Covey's case. Many of the fatal cases of œdema of the glottis commence in this way.

Our patient was promptly treated in the manner I have indicated in the lecture already referred to. The throat was freely washed with a solution of nitrate of silver (gr. xx, ad ℥j). A mustard poultice was applied to the throat externally. He was ordered two drachms of brandy in arrow-root every three hours, and carbonate of ammonia with chloric ether was given freely.

On the third there was no improvement, prostration very great; pulse 90, and very compressible; can scarcely swallow anything; the attempt to do so nearly suffocates him; has scarcely swallowed any of the brandy and arrow-root; the mucous membrane of the throat is red, and secretes a quantity of muco-purulent fluid, and uvula slightly swollen.

The solid nitrate of silver was now applied freely to the mucous membrane of the fauces; and he was ordered to have an enema, consisting of ten grains of quinia in three ounces of strong beef-tea, every three hours, the rectum having been first cleared out by an enema of warm water. He was allowed brandy if he could swallow it.

The next day (Nov. 4) the report was more satisfactory: the pulse is better, he has had the enemata regularly, and retained them all; swallows much better, and gets down at least nine-tenths of what is offered to him.

November 5—Still improving. throat less sore externally: secretion much diminished, swallows all that is brought him; continues the enemata and the brandy, pulse 80. He was now ordered chloric ether, ammonia, and bark, and the enemata were discontinued.

From this date our patient rapidly improved. On the 6th his pulse had fallen to 70, and all difficulty of deglutition had disappeared; the urine assumed its natural condition, but the patient continued weak for a long time, and did not leave the hospital till the 27th.

This is a good example of this peculiar affection of the throat; it is analogous to the scarlatina sore-throat; but in the latter affection you always meet with more or less of swelling, and mechanical impediment, with a tendency to, or actual ulceration.

ART. 53.—Observations of Morbid Changes in the Mucous Membrane of the Stomach.

By Dr. HANDFIELD JONES, Assistant-Physician to St. Mary's Hospital.

(*Medico-Chir. Trans.*, vol. xxxvi, 1854.)

The first part of this communication comprises a description of the minute glandular structure of the mucous membrane of the stomach, in which the author corroborates the account given by Kölliker. On first commencing his researches into this subject, he was not aware that lenticular or solitary glands had been seen in the mucous membrane of this viscus. The author not imagining they could be normal structures, had at first viewed them as simply nuclear deposits, supposing they were of new formation. Kölliker had observed that these lenticular glands did not constantly occur in the stomach of adults, even though they might be possibly always present in those of children. In very many cases he had met with no traces of them; in others they were seen to be extremely numerous, covering the whole surface of the stomach; yet the thought could hardly be excluded, that the morbid conditions of the part, which were always present, had not had something to do with their formation. The author thought it difficult to fix any exact limit to the healthy development of these glands. He considers the gastric tissue in its most normal and efficient state when there were but few of these glands or nuclear masses, and when those that existed did not encroach materially upon the tubular or gastric glands of the stomach. He thought great individual varieties might exist; that they were naturally larger and more numerous in some individuals than in others. He ventures to think that these solitary glands and their groups in the intestines (Peyer's patches) had really no use, and fulfilled no function in the human body, but existed in a rudimentary state in obedience to the law of unity of type. They might be regarded as portions of undeveloped embryo substance, existing in inverse ratio to the surrounding specially organized tissues, and with this view their simple nuclear structure, so common in embryonic parts, was very accordant. Dr. Jones's opinion is that the epithelial contents of the tubular glands are thrown off during digestion, and form an important constituent of the gastric juice, probably the so-called pepsin. The evidence of this rests on examination of the stomachs of animals killed while digestion was proceeding, and of a man who died suddenly soon after a meal. The following deviations from the typically healthy condition of the stomach are mentioned as examples of morbid changes:—

1. *Nuclear masses*.—It is doubtful what degree of development of these is to be considered as surpassing the physiological limit; but observation proved that they became both hypertrophied and atrophied, and the latter seemed to take place by a kind of liquefying, so that a cavity was formed containing a clear fluid and some nuclear corpuscles.

2. *Diffused nuclear formation*.—The effect of this is, that the tubes become more or less atrophied and obscured by interstitial deposit.

3. *Intertubular fibroid formation*.—The tubes become atrophied by the presence of a fibroid or granular deposit, in which some altered vestiges of the tubes might be brought into view by acetic acid.

4. *The tubes appear to decay spontaneously*, but not from the presence of new fibroid tissue.

5. *Black pigmentary deposit*, occasionally within the tubes, more often between them; sometimes yellow pigment is found; both may be regarded as altered hæmaturia.

6. *Cystic formation*: produced in one of three ways: First, a nuclear mass liquefied and left a cavity; secondly, white atrophy of the tubercular glands was going on, and a portion of one became distended; thirdly, a cyst was produced as a large vesicle, a true new formation.

7. *Mammillation*, usually affecting the pyloric region.

8. *Gathering up of the lower parts of the tubes, so as to form a group of convolutions like the acme of a conglomerate gland.*

9. *Unhealthy condition of the epithelium of the tubes, occasionally exhibiting the characters of a fatty degeneration.*

10. *Self-digestion was of frequent occurrence, and invariably confined to the splenic region; the mucous membrane was more or less deeply colored, thinned, smooth, and semi-translucent. In extreme cases the nerves and vessels were seen altered, as when treated by strong acetic acid.*

11. *Small dark-red circumscribed spots, manifestly the result of hemorrhage; ulceration often takes place in these.*

12. *The tenacious adhesive mucus of gastric catarrh.*—Its microscopical characters are very clearly described.

The author has observed torulæ in the mucus of the stomach of a diabetic patient. The paper is accompanied by a table of 100 cases of post-mortem examinations, in which the morbid changes in the mucous membrane of the stomach are fully and minutely described, together with an analysis of these cases, in which the influence of age and sex, habit of life, &c., are considered, as well as the frequency of the several morbid changes already enumerated. Eight drawings, executed by the author, illustrate very intelligibly the diseased conditions which the microscope had revealed.

In further elucidation of the subject of this paper, Dr. Jones says, that all that his inquiries went to show was, that degenerative changes might be going on in the stomach concomitant with other diseases in which there was a degenerated state of the blood, as anæmia, and diseases of a like character. This degeneration, too, might be progressing without attention being specially called to the stomach, the prominent symptoms of dyspepsia being absent. This was explained by the circumstance, that when the stomach was in a tolerably healthy state, sensations of dyspepsia might exist; but when there was degeneration, such as he had described, the sensibility was destroyed, and no symptoms of indigestion presented themselves. His observations, then, had made no advance in the treatment of dyspepsia. As our knowledge advanced by after-labor in the course which he had commenced, we might, perhaps, be enabled to detect the early symptoms of this or similar diseases, and be able to guard our patients against habits which would produce them, and which, when once established, were as fatal as Bright's disease, or other affections coming under that category. These inquiries would call upon us to watch carefully the symptoms of failing health in our patients, and so, perhaps, prevent the occurrence of incurable disease. He had no suggestions as to treatment, except that of support generally. With respect to the connection of the disease with delirium tremens, he had seen two cases of this affection in which the degeneration existed; there was nothing particular in them, and the delirium tremens was associated with granular disease of the kidney, or some other disease.—In reply to other questions, Dr. Jones says that he had found the changes to which he had referred, connected usually with depressing diseases, such as phthisis, anæmia, &c. He had had no opportunity of knowing, as the patients had usually died from acute diseases in the hospital, whether they had suffered from dyspepsia in former years, or whether they had been treated by drastic purgatives and other active treatment. It was probable, however, that they had suffered from dyspepsia. The change he had described differed altogether from that which was observed as the result of inflammation; the tissue was remarkably pale, and there were no traces of injected vessels.

ART. 54.—On Gallic Acid in Pyrosis. By Dr. BAYES.

(*Association Medical Journal*, June 28, 1854.)

The subjoined remarks are from a very good paper "On the use of Gallic Acid in the Hemorrhagic Diathesis, and in diseases characterized by relaxed fibre or excessive secretion." Dr. Bayes thinks this remedy is worthy of every confidence:

1. In active hemorrhagea.
2. In passive hemorrhagea.

3. In excessive secretions, as in pyrosis, serous diarrhœa, chronic bronchitis, bronchial flux, profuse night sweats, some forms of dysentery, and perhaps in diabetes.

4. In atonic states generally, and especially in rachitis.

5. As an adjunct to other means in piles, wounds, &c.

The most novel part of the paper, and that which requires especial notice, is that which concerns pyrosis. Dr. Bayes writes:—

“In pyrosis, where this disease is unaccompanied by extensive ulceration, or organic malignant disease of the stomach, or by disease of the liver, the most marked benefit will follow the use of the remedy. Gallic acid, here, not only checks the secretion with a certainty and rapidity I have never seen follow the administration of any other remedy, but it gives general tone to the stomach, increases the appetite, and (what I very little expected when I first used it) in many cases removes constipation. This I can only account for on the supposition that the relaxed atonic state of the stomach which favors pyrosis is continued throughout the alimentary canal, the constipation in these cases arising from want of power in the muscular coats of the intestines to expel the fæces. This want of tonicity is remedied by gallic acid. The cases of pyrosis which have fallen under my observation, since I have adopted the gallic acid treatment, have been very few; indeed I believe it to be a very infrequent form of disease in Brighton. Out of 945 cases of general disease, which have come under my care at the dispensary during the past twelve months, only eight patients have suffered from this disorder. These have been all females. I have the notes of five of these cases before me. The first was a female of twenty-five years of age, unmarried; she had been for eight months suffering from pyrosis and obstinate constipation, during which period nearly every remedy of reputed value had been administered. She was completely cured in two days. I kept her under my care for three weeks, continuing the gallic acid and occasional doses of castor oil. I have seen her since, and though some months have elapsed, she has remained perfectly well. The second case was a female, forty-nine years of age. The pyrosis ceased after the second dose of the medicine. She discontinued the treatment a week afterwards, and had a slight return the following morning, which again gave way to the medicine, and by a continuance of the pills for three weeks, she has remained perfectly well ever since. In the third case, the remedy proved equally successful. In the fourth, a married woman of thirty-five, who had suffered from the disease nine months, the distressing symptoms abated considerably at the fourth day, and entirely left her on the eighth day. In the fifth case, a female of forty-five, there was no return after the first dose. In one case only have I found it to fail, and this woman is still under my care; she is forty-nine years of age, and is, I fear, the subject of malignant disease, together with organic disease of the liver. All the first five cases presented a general similarity in the relaxed muscular fibre of the body, and pale watery appearance of the mucous surfaces.”

ART. 55.—*On Vegetable and Mineral Acids as prophylactic and remedial in Epidemic Disorders of the Bowels.* By J. H. TUCKER, Esq.

(*The Lancet*, July 15, 1854.)

In this paper (read before the Epidemiological Society) Mr. Tucker begins by alluding to the remarkable, but well-established fact, that in 1849 the cider districts of Herefordshire, Somersetshire, and part of Devonshire, were, to a great extent, exempt from the epidemic ravages of cholera, while the disease was raging around. Upon further inquiry it was ascertained that this exemption was confined a good deal to those individuals who drank cider as a common beverage, and that those who partook of malt liquor occasionally suffered. He also remarks, that in some parts of France and in Normandy, more particularly where cider is the common beverage, cholera is seldom known to exist; and, further, that Switzerland is reported to have been free from its visitation.

Having adduced these and other facts in proof of the prophylactic power of cider, the author expresses his opinion that other vegetable acids would be found of service, such as lemon-juice, orange-juice, and sour wines made from grapes,

or even from gooseberries. And as it would be found impossible to supply the whole of London with a sufficient quantity of pure cider, it is suggested that vinegar might be found a useful substitute in case of another outbreak of cholera, provided it could be obtained in a state of purity. In confirmation of his view of the sanative and medicinal virtues of vinegar, the author quotes Hippocrates, who (*de natura morborum*) "employed white vinegar medicinally"—Plutarch and Livy, who refer to the use of vinegar by Hannibal, in his passage over the Alps, when he is said to have "softened the rocks with fire and vinegar," an operation which the author facetiously regarded as rather metaphorical than chemical, as the vinegar, swallowed by the troops, probably sustained their strength, and thus in effect softened the asperities of their rough way. The author also quotes from Roman history the story that "Scipio Africanus is said to have gained a great battle with a few skins of vinegar," the troops refusing to march until the general had obtained a supply. Cæsar is also reported to mention in his *Commentaries* the supply of vinegar to the troops; and Mr. Tucker remarked that the drink of the Romans in all their campaigns was vinegar and water, and, sustained by that beverage, they conquered the world. Modern authors (Sir John Pringle, Sir Gilbert Blane, and others) were also quoted in proof of the antiseptic and medicinal qualities of vinegar. Mr. Tucker then proceeds to show that acid drinks were not only preventive, but remedial in epidemic disorders of the bowels. Cases are related, in which not only persons were exempt from attacks of cholera raging around them, who drank large draughts of cider, but a case of severe cholera is also related, which yielded to the diluted juice of sour apples. The efficacy of the mineral acids, especially the sulphuric, in diarrhœa, and especially in choleraic diarrhœa, is also advocated by reference to numerous facts and authorities. He also refers to some established facts connected with the spread of epidemic dysentery in the army, showing the efficacy of vegetable acids in that disease.

ART. 56 — *Case of prolonged Constipation* By MR. GAY.

(*Pathological Transactions*, vol. v. 1854.)

This case was exhibited before the Pathological Society on the 18th of October, 1854, as showing the connection between the constipation and an attack of dysentery, and as proving that persistent and complete constipation of the bowels might exist for four months without occasioning any interruption to the processes essential to the general function of nutrition.

CASE—A lad, æt 7, of healthy appearance, was admitted into the Royal Free Hospital, in July, 1853. Four years ago he had an attack of typhus fever, accompanied with abdominal tenderness and dysentery.

On recovering, his bowels became so exceedingly torpid, that it was necessary to administer strong purgatives, or enemata, in order to procure any evacuation from them. This torpor gradually increased, so that after about two years these means failed of having any effect whatever. During the three months prior to his admission nothing whatever passed from his bowels; and he was accordingly sent from Rochford to Mr Hogg, of Finsbury, and he then came under Mr. Gay's care. Notwithstanding this condition of the bowels, his health had not apparently suffered in the least degree; his appetite had in no respect failed him, nor had he been sick but on one or two occasions, and then in consequence of his having taken unwholesome food. His body, however, had gradually enlarged—to the size of forty-nine inches in girth; but without material inconvenience to his respiratory organs. On examining the abdomen, it was found to be uniformly very tense, the recti muscles were rigid, but the oblique and transversales, especially on the left side, were flaccid, and had evidently yielded more passively than the recti, to the distension within. Along the left side there was a considerable prominence or broad ridge, corresponding to an enlarged descending colon, and its sigmoid flexure. Just below the navel a portion of intestine had protruded, apparently through a rent in the linea alba; it could be reduced, but not retained within the abdominal walls. The abdomen was in parts (varying, as was afterwards found, from day to day) resonant on

percussion, but, for the most part, dull; and on palpation distinctly gave an impression as though it was distended with solid lumpy matter. A series of remedies were used, but without effect; and it was not until after the expiration of three weeks that any fæcal matter was obtained from the bowels; and then only by the following means: A speculum was passed into the rectum; and, after dilating the sphincter, the tube of an enema syringe was passed high up into the bowel, and its contents washed out by a stream of warm water, which was kept continuously playing upon them for the space of nearly half an hour. The distension of the sphincter seemed to excite peristaltic action, and thus materially to assist in dislodging the contents of the bowel.

A large quantity of fæcal matter, hard and black, and much resembling common cinders in appearance, was by this means brought away. This operation has now been repeated several times with similar results, and with the effect of reducing the size of the abdomen to that of twenty-six inches in circumference.

At present on passing the tube into the bowel, there is little doubt but that it enters a capacious and tolerably flaccid sac; and that this sac is formed by a distended and, in all probability, a palsied condition of the descending colon, and its sigmoid flexure. A bandage is kept constantly applied around the abdomen; the confection of black pepper, aloetic purgatives, strychnia, and other remedies, have also been given, but as yet no spontaneous effort whatever has been at any time made by the bowels to relieve themselves. The urine has been constantly of a deep color, of a high specific gravity, and laden with lithic acid and lithates.

ART. 57.—*Oil of Pumpkin-seeds in Tape-worm.* By Dr. PATTERSON.

(*Philadelphia Medical Examiner*, Oct. 1853.)

In this article Dr. Patterson states his belief that the fixed oil which is yielded by pumpkin-seeds, on compression, will be found to be a valuable and convenient remedy for tape-worm. He has not tried it himself, but it has been tried at his suggestion by Mr. John C. Lyons. The patient was a poor woman. After twenty-four hours' rigid fasting, half an ounce of the oil was given, and a second half-ounce after an interval of two hours. This caused some disposition to diarrhœa. After a second interval of two hours, an ounce of castor oil was given, and this purged freely and brought away a considerable quantity of the worm. Three months have now elapsed, and there has been no return of the worm symptoms.

The oil is clear, transparent, of a light brownish-green color, with a slight oily odor, and a perfectly bland taste, like that of the oil of sweet almonds. Fourteen ounces were obtained from four pounds of the seeds, but a much larger quantity might be obtained if the operation had been conducted on a larger scale and more carefully.

ART. 58.—*A remarkable case of Intus-susception, &c.* By Mr. CHARLES KING.

(*The Lancet*, June 17, 1854.)

This case is a remarkable illustration of the power of the *vis medicatrix naturæ*. The cœcum, with its vermiform process, and part of the ascending colon, became invaginated, and then separated and were expelled *per anum*; subsequently the leg mortified and separated spontaneously below the knee; and yet for all this the patient, a mere child, recovered. Mr. King writes:—

CASE.—W. P——, æt. 6, a little boy, with fair hair and complexion, and of previous good health, was attacked without obvious cause, on the 27th of October, 1852, with swelling and discoloration of the calves of both legs; they were mottled in appearance, painful, and cold to the touch. The next day these local symptoms had subsided, but severe and nearly constant vomiting came on; this was accompanied by constipation, with much pain and tenderness in the abdomen, especially in the right iliac region. I adopted all the usual measures likely to relieve such symptoms, administered injections *per anum*, &c., but without

any marked beneficial effect, a little hardened feculent matter only being brought away by the enema. The patient continued much in the same state for four days—viz., until the second of November, when the vomiting ceased, and severe general convulsions and insensibility supervened. He lay for twelve hours perfectly unconscious, with a widely dilated pupil, unacted on by light, a quick, thready pulse, cold, clammy perspirations, and a mucous rattle in the chest. Under the influence of the most powerful stimuli he rallied. A blister was applied to the nape of the neck, and one-grain doses of calomel administered every four hours. Beef-tea was also ordered to be taken *ad libitum*. Convulsions continued at intervals during twenty-four hours—viz., till the night of the 3d, when he slept pretty well, and on the 4th seemed, on the whole, in a better condition. Complete consciousness had returned, but pain was still complained of in the right iliac region, and the whole abdomen was slightly distended and tympanitic. The constipation continued complete, and an injection which was this day administered returned offensive, and mixed with dark blood. Calomel was still given, but in half-grain doses.

During the next four days no material change occurred; no motions were passed from the bowels: no injections were administered, but fluid nourishment was given freely.

On the 7th of November the mucous membrane of the mouth was observed to be slightly ulcerated, but the breath had no unpleasant odor, nor were the gums swollen. The mercury was, however, discontinued. Not any active or urgent symptoms were now present, but the patient was of course much debilitated. On this evening (7th), being eleven days after the commencement of the symptoms, five days after the vomiting had stopped, and four days after the cessation of the convulsions, he passed the cæcum, with its vermiform process, and part of the ascending colon, and of which a drawing and the preparation are in the Museum of Guy's Hospital. The intestine has been entirely opened, but at the time it was passed the cylinder was complete in many parts. The mass was passed without the patient's knowledge, and during sleep. The next morning he had a natural and solid motion, and seemed improving in condition. No change in the symptoms occurred during the next day or night (the 8th), and he slept well; but on the morning of the 9th, the left leg was noticed to have become cold, and on examination I discovered that the arterial pulsation in the groin, and below that point, had ceased. The patient, however, complained of nothing, was allowed a nourishing diet, and the limb was wrapped in flannel. During the day he had diarrhœa, which it became necessary to check by astringent medicines.

It will not be needful again to refer to the intestines, for since this time they have acted pretty regularly and naturally, and have given me no further trouble.

The patient's health was kept up by wine, tonics, &c., but the whole leg below the knee soon became gangrenous. This proceeded rapidly, and on the 18th of November I solicited Mr. Hilton's opinion on the case, especially as to the propriety of immediate amputation. The line of demarcation not being very clearly defined, the strength of the patient not being good, and bearing in mind the necessary loss of blood which must occur in performing amputation, it was thought better to rely upon the efforts of nature to repair the injury done, experience having shown that spontaneous separation by gangrene very often occurs satisfactorily below the knee-joint, a circumstance probably depending on the free arterial anastomosis from many and different sources at that part. Warmth in the limb was felt to about three inches below the patella, but beyond that point it was cold. The whole limb was now enveloped in cotton wool, and exposed only every second day. Infusion of serpentary and sesquicarbonate of ammonia were administered three or four times daily.

On December 1st the line of demarcation was distinct exactly across the middle of the knee-joint, the superficial parts below which were in a state of slough. The patient's health was tolerably good. The offensive effluvia from the dead structures being great, I cut through the soft parts about three inches below the patella, and then sawed through the subjacent bones. The stump was dressed with a nitric acid lotion. In a few days the whole of the remaining sloughs of soft parts had separated, and in such a manner that three openings were formed, an

inner exposing nearly the whole of the internal condyle of the femur, an outer exposing the external condyle, and an anterior exposing the whole of the cutaneous surface of the patella. Below these openings a broad ring of living vascular structure encircled the heads of the tibia and fibula; the divided ends of those bones of course protruded beyond the soft parts. The surface looked tolerably healthy and vascular, but it seemed too much to expect that granulations should cover the large surface of bone exposed; it was therefore considered whether it might not be advisable that the femur should be sawn through just above the condyles, and a flap to cover it made posteriorly, where the skin continued healthy, and well supplied with blood. Delay was, however, resolved on, as it was hoped that granulations might creep over the condyles, cover the patella, and that, on the separation of the dead ends of the bones, nature might effect her own cure, with a long stump and a good bearing point upon the knee. This hope has been completely realized. Strict attention was paid to the patient's health, and care taken in dressing, and on the 16th of January granulations had completely covered the condyles and the patella, and Mr. Hilton on that day twisted off the shafts of the tibia and fibula from their epiphyses. The openings thus made soon closed, and the whole stump commenced to skin over. Powdered bark was applied to the surface of the granulations, with nitric acid wash. Tonics and wine were given in full doses. This process of healing proceeded slowly, and occupied some months for its completion, the tender recently formed skin having a constant disposition to ulcerate in patches with the slightest deterioration of the patient's health; however, I am now happy to report that the stump has completely healed, and will bear pressure well, and is a remarkably good one. The epiphyses of the tibia and fibula which remain are turned back, and the limb now resembles in appearance a very high amputation below the knee.

I may add that the pulsation in the left groin is still absent, and also that the patient now frequently suffers from indigestion. The attacks are somewhat acute, are attended with fever, pain in the abdomen, and terminate with slight diarrhœa. On one occasion an attack was clearly caused by vegetables which he had taken. It may be interesting physiologically to consider whether the diminished length of the large intestine may not have an influence in producing these symptoms.

ART. 59.—*Profuse Sweating a symptom of Congested Liver.*

By Dr. DURRANT, Physician to the East Suffolk and Ipswich Hospital.

(*Assoc. Med. Journal*, Oct. 6, 1854.)

In our opinion this observation is deserving of very great attention. We can remember more than one case, and one too well, in which this symptom of profuse sweating was connected with an extremely congested liver, congested together with the lungs, the venous side of the heart, and the venous system generally, on every temporary failure in the action of a weak heart, and, in which, after Dr. Stokes's suggestion, the best means of affording relief was to preface the administration of the necessary tonics and stimulants by unloading the liver by means of a blue pill. When, therefore, Dr. Durrant says that his "object in detailing these simple cases is to show that we are not at once, under the idea of combating debility, to administer tonics and mineral acids, but rather to seek to remove the true pathological cause, which will often be found to exist in a congested condition of the hepatic circulation;" we fully sympathize in the importance of that object.

CASE 1.—A gentleman, accustomed to field sports, had previously enjoyed good health. On my visiting him, I found him in bed, depressed in spirits, bathed in perspiration, emaciated, and with the certain foreboding that he was laboring under some organic affection of the heart or lungs, and which an injudicious communication from a medical friend had not served to alleviate. The perspirations had been and were most profuse both by day and night, and was the symptom that most annoyed him. His tongue was coated, and he complained of weight and uneasiness in the right hypochondrium. The pulse was

110; the heart's action was irritable, but otherwise normal; the lungs were healthy. On examining the evacuations—a proceeding which, in these cases, ought never to be omitted, as the report of both patient and nurse is, with scarcely an exception, fallacious—they were found to be in the highest degree unhealthy, being dark, bilious, and very fetid. The urine was scanty and very high colored, but without deposit. Under the impression that the perspirations resulted from debility, the patient had been ordered quinia with full doses of sulphuric acid, and a somewhat stimulating diet. Under a broth and farinaceous diet, and the simple exhibition of salines, with a steady perseverance in blue pill and colocynth, the evacuations became natural, and the perspirations ceased.

This gentleman has continued well, and is now stout and in the best of health.

CASE 2.—A gardener, without feeling decidedly unwell, or being compelled to discontinue his employment, was the subject of profuse perspiration, principally of the head, face, and chest, which occurred chiefly at night or early in the morning, quite irrespective of physical exertion.

This case proved an obstinate one, and required the repeated exhibition of alterative aperients for two months. He has quite recovered.

ART. 60.—Case of Apoplexy of the Liver.

By Dr. FOOTE, Physician to the Norwich Lunatic Asylum.

(*Dublin Medical Quarterly*, Aug., 1854.)

Apoplexy of the liver is of very rare occurrence, and when it does occur it is chiefly in infants, as the consequence of impeded respiration and pulmonary circulation, from suffocative catarrh (Rokitansky). Dr. Foote's case, therefore, is of considerable interest.

CASE.—R. H., male, æt. 58, married, was admitted into the Norfolk County Asylum, Aug. 11th, 1840, suffering from moral insanity, with homicidal propensities, and epilepsy. He had been a seaman, and very intemperate; but for some years before his admission he had been a bricklayer, and a sober, staid man. His first attack of epilepsy was twenty years ago.

After admission, very little change was noticed until April, 1854, when he suffered from apparent general debility, with small ulcers of the legs, and slight œdema, for which he remained in bed. He became gradually worse, and on April 21st it was noticed that there was some swelling of the face, an apparent swelling of the abdomen, and shortness of breath. The urine, on examination, was found to be highly albuminous and acid, with a specific gravity of 1012. The diet, which had consisted of meat daily, with beer, &c., was changed for beef-tea, and milk, and an occasional mercurial, with saline aperients. At the end of two weeks he had improved, the abdomen became less, and the respiration was natural, but the epileptic attack still occurred as usual, about two or three every fourteen days.

He was unable to get up, and therefore remained in bed; and on the 24th of May, at 9 P. M., was seized with a severe epileptic fit, which lasted half an hour; an interval of about a quarter of an hour took place between it and another attack. He suffered from repeated fits during thirty hours, until he died.

He was very stout, sedentary, and voracious.

The only appearance disclosed on examination after death, which need be noticed, are those which concern the abdomen, and these are thus related.

Abdomen.—Stomach empty; mesentery and all the viscera loaded with fat.

The liver was firmly adherent on the upper surface of the right lobe, left lobe free. When removed, this organ weighed 71 ounces. On the anterior two-thirds of the right lobe, beneath the peritoneal covering, was a firmly coagulated clot (apparently of recent origin), of a heart-shape form, and seven inches by six in superficial diameter. The appearance which it exhibited gave the idea of a smaller liver placed upon the surface of the right lobe. The left lobe was small.

On slicing the liver, it was found that the clot was about one inch in thickness.

anteriorly, becoming thinner as it proceeded backwards. The substance of the liver was paler than usual, having a fatty appearance. In the centre of the right lobe were three smaller clots, about one inch each in diameter, and connected with that on the periphery; around each of these small clots was a thin layer of a yellowish, soft substance, looking like tubercle, which, on microscopic examination, proved to be fat.

The spleen was everywhere adherent to the diaphragm; weight, four ounces.

The kidneys, when cut, exhibited a yellowish, fatty appearance of the cortical substance, which was very thin, and this appearance extended to the interpyramidal substance. The right kidney weighed five and a quarter ounces, and had on its surface some small serous cysts; the left weighed five ounces.

In conclusion, it may be well to notice that, from the observations which have been hitherto made albuminuria is of rare occurrence among the insane. Dr. Sutherland, of St. Luke's Hospital, in 1845, found that of 192 individuals laboring under the different forms of insanity, in whom the urine was examined, it was albuminous in only seven cases.

ART. 61.—Cases of Primary Cancer of the Spleen. By Dr. GUENSBURG.

(*Gaz. Med. Toscana*, 1854; and *Dublin Quarterly Journal*, May, 1854.)

The spleen is one of the organs least liable to be primarily affected with cancer. Lebert, in his work on Cancerous Diseases, states that he has never met with such a case. The exceptional nature of the lesion, therefore, renders the following history worthy the attention of pathological anatomists.

A woman, æt. 40, had suffered for a year from weakness, attacks of fever, and lancinating pains in both hypochondriac regions, so violent as to deprive her of sleep. Dr. Guensburg having been summoned to attend her, found her in a state of extreme emaciation. In the left hypochondrium was a tumor reaching to within half an inch of the epigastrium, and extending downwards to the level of a line drawn horizontally from the umbilicus. This tumor was hard, and presented an irregular surface, the dulness on percussion extended to the left axillæ; the liver retained its ordinary volume; there was constipation; the sounds of the heart were normal; the pulse was small, and varied from 100 to 108; the blood contained a few white globules. The patient died with symptoms of general dropsy in four months after having been placed under treatment. On post-mortem examination there was found effusion of limpid serum in both pleuræ; some tubercles in the apices of both lungs; limpid serum in the pericardium. The heart was small; there was some opacity of the mitral valve; the heart and great vessels contained a little blood and some fibrinous coagula. There was effusion of serum into the abdomen. The spleen was about a foot in length, six inches in breadth, and the same in thickness; its surface was studded with hemispherical elevations as hard as cartilage. The tumors, which were difficult to remove, were of a deep-brown color mixed with white, and occupied the entire spleen; there were scarcely any traces of normal tissue in the organ. The lymphatic glands surrounding the spleen and pancreas were infiltrated with a soft whitish substance. The peritoneum was swollen, opaque, and easily torn. The remaining abdominal organs presented nothing remarkable. Microscopic examination revealed the existence of cancer cells in the morbid tissue of the spleen.

ART. 62.—Rules for practising Iodine Injections in Ascites. By M. TESSIER.

(*Bull. de Ther.*, 1854; and *Gaz. Méd. de Paris*, April 22, 1854.)

These rules are three in number:—

First. Not to empty the peritoneal cavity before practising the injection. This is obvious, for if the injection be not diluted, and diffused by the ascitic fluid, it might act too powerfully and partially upon the peritoneum. Death from peritonitis has happened from the want of attention to this precaution.

Second. To order the strength of the injection in conformity to the composition of the peritoneal fluid, the strength being in direct relation to the alkalinity and albuminosity. When this liquid is clear and but slightly alkaline and albuminous, M. Tessier injects from twenty to thirty grammes of tincture of iodine, and two grammes of iodide of potassium; where the liquid is decidedly albuminous, sanguineous or purulent, and especially if it be very alkaline, he doubles these quantities.

Third. To practise a preliminary tapping some day previously, if the abdomen is very voluminous, in order to diminish the peritoneal surface, and so lessen the risk of peritonitis.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 63.—*A new method of determining the amount of Urea.* By Dr. E. DAVY.

(*Phil. Mag.*, June, 1854; *Medico-Chir. Rev.*, Oct. 1854.)

Dr. Davy has discovered what appears to be a simple, and, according to the present evidence, an accurate mode of determining the amount of urea. It is founded on a fact discovered by Dr. Davy, that urea is readily decomposed by admixture with the hypochlorites of soda, potash, or lime; its constituent nitrogen is given off, and, from its amount, the quantity of urea is determined by a simple calculation. The manipulation appears to be extremely easy; a measured quantity of urine is introduced into a graduated tube (partly filled with mercury), and then an excess of the hypochlorite of soda is added and the tube is inverted; in a few seconds the urea begins to decompose, the carbonic acid is absorbed by the hypochlorite, and the nitrogen collects in the upper part of the tube. In three or four hours the decomposition is complete.

Dr. Davy has made some comparative experiments with this and with Liebig's method, and the results very closely accord. Sugar, albumen, bile, and excess of urinary coloring matter, do not affect the accuracy of the results.

ART. 64.—*Observations on Urine according to Liebig's Method.*
By Dr. ALFRED VOGEL.

(*Zeitsch. für Rat. Med.*, Bd. iv. 1854; and *Medico-Chir. Rev.* Oct., 1854.)

1. Dr. Alfred Vogel has determined the amount of urea and chloride of sodium excreted in twenty-four hours, in a great number of patients. The well-known method of Liebig was the one employed. The following are his conclusions:—

(1.) In typhus (abdominalis=typhoid fever) and in pyæmia, the excretion of urinary ingredients (urea and chloride of sodium are the only ones determined, *Rev.*) is increased as long as the febrile symptoms continue. The chloride varies especially, according to the food; it is particularly diminished in great splenization of the lungs. The increase of the urea indicates the consumption of the nitrogenous tissues.

(2.) When the fever is over, the quantity of urea falls below the normal amount, in spite of the increased quantity of nitrogenous food; it then, after perfect recovery, returns to the physiological standard.

(3.) In morbus Brightii of both kidneys, without acute complication, the urea is diminished in amount, though the quantity of urine is usually increased. The chlorides vary according to the food, and to the increase and decrease of the dropsy.

(4.) Kidney calculus, or cysts, do not diminish the excretion of water and of urea, if a portion of the kidney is still capable of its functions.

(5.) In rapid absorption of serous exudations, the quantity of water and of the chlorides is greatly increased; the urea is also but moderately increased. Under these circumstances, the amount of the chlorides rises and falls in proportion to the quantity of urine; this is not the case with the urea.

(6.) In polydipsia hysterica the quantity of urine is enormous, but the absolute

quantity of the urea and of the chlorides is small. The solids of the urine are not augmented with the water; and of the solids (here examined) the chloride passes off more readily than the urea.

(7.) As determined by Heller and Beale, the chlorides diminish in pneumonia, as long as the hepatization proceeds, and increase after resolution.

(8.) A certain quantity of urea (6—8 grammes = 92½ to 122½ grains in twenty-four hours), is present in the most extreme atrophy, and when no nitrogen is introduced by food into the system.

On looking over the tables, we observe that the largest amount of urea ever noticed was in a case of pyæmia, in which it reached the enormous amount of 1235·5 English grains in twenty-four hours. The next greatest amount was in a case of typhoid fever, in which, in twenty-four hours, 1065·636 grains were passed. (The normal average, according to Bischoff, is 540·540 grains.) The lowest amount excreted was in a case of carcinoma of the liver, with great atrophy; on one occasion there were only 104 grains excreted in twenty-four hours.

ART. 65.—*On the Vibriones and other Organisms which are found in Alkaline and Albuminous Urine.* By Dr. HASSALL, Physician to the Royal Free Hospital.

(*Medico-Chir. Trans.*, vol. xvii. 1854.)

Having first given a description of the vibriones of the urine, Dr. Hassall enumerates the causes and conditions under which they are developed, and arrives at these conclusions:—

1. That vibriones are not developed in strongly acid urine so long as it retains its decided acidity.

2. That so soon as such urine has lost a considerable part of its acidity, and has become but feebly acid, vibriones begin then to appear. It is thus that the occurrence of both torulæ and vibriones in the same urine is explained. While the urine is strongly acid, the torulæ are formed; but, as soon as the acidity becomes greatly reduced, the vibriones make their appearance.

3. That vibriones are invariably developed in different proportions in all urine which is either feebly acid, neutral, or more particularly alkaline.

4. That the greatest development of vibriones takes place in all urine which contains most animal matter, as mucus, epithelium, and albumen, and which, at the same time, are decidedly alkaline. Hence, although not an exact test of the degree of alkalinity of any one sample of urine, or of the amount of animal matter (especially albumen), present, yet, by their early appearance and by the quantity developed, to a certain extent vibriones may be regarded as affording valuable information on both these heads.

5. That vibriones are most freely developed when the urine is exposed to the air.

But vibriones are not the only kinds of animalculæ found in urine. A second species not unfrequently occurs in great abundance, entirely different in size, form, and structure; this is the *bodo urinarius*. The author gives a minute description of this animalcule, showing that it multiplies by *fissiparous* reproduction. This description is illustrated by some carefully executed drawings. Dr. Hassall's investigations have also led him to the discovery of a third kind of fungus developed in alkaline urine, entirely different from the two which had been described in a former communication. Like them, this recently discovered fungus presents three distinct stages of growth—sporules, thallus, and aerial or perfect fructification. These are severally described. The author abstains from giving this fungus a distinctive name, wishing, before doing so, to ascertain whether it had heretofore been described by any other observer.

ART. 66.—*On Diabetes.* By Dr. VON DURSCH, of Manheim.

(*Henle u. Pfeuffer's Zeitsch.*, 1853; and *Edin. Med. Journal*, July, 1854.)

Probably one of the most elaborate papers ever written on this disease has just been published by the above author. It is founded upon two very interesting cases of diabetes, of which he has given very careful clinical reports, and

also accounts of the pathological lesions found after death. With indefatigable perseverance and most praiseworthy zeal, he carefully ascertained, every day for several months, the nature and amount of the food and drink taken by his patients; the amount of fluid contained in the aliment, the quantity of urine excreted, its specific gravity, and the amount of sugar it contained; the number of the stools, the proportion of their watery constituents; the amount of water exhaled by the lungs and transpired by the skin, &c. The results of these most laborious and minute investigations he has condensed into two large synoptical tables, which are appended to the memoir. In one of these full particulars are given of the effects of different kinds of diet upon the total amount, specific gravity, and saccharine constituents of the urine. As far as our limited space permits, we shall now glance at the general results thus tabulated; *first*, when the patient was put upon a mixed diet for forty days, *secondly*, when a farinaceous diet alone was allowed during eight days; and *thirdly*, when animal food was given during a period of five days.

1. Effects of mixed diet on

(a.) *The specific gravity*.—The average density of the urine, while this regimen was adhered to, was 1037.8, it was higher in the mornings and evenings (1038) than during the day (1036).

(b.) *The amount of the urine*.—The daily average was 5234 cubic centimetres. The quantity voided was greater in the morning (1971 c.c.) and evening (1831 c.c.) than during the day (1430).

(c.) *The percentage of sugar*.—The average amount of saccharine matter was 9.134 in the 100 grammes. The percentage was lower in the morning and mid-day urine (8.9) than in that passed at night (9.4).

(d.) *The total amount of sugar*.—The average daily amount of sugar excreted during the whole period was 477.7 grammes; the lowest was 350, and the highest 615 grammes.

2. Effects of farinaceous diet on

(a.) *The specific gravity*.—This continued nearly the same as with mixed diet; the average was 1037.6. With this regimen also it was lower during the day than at night or morning.

(b.) *The amount of the urine*.—This was increased to 5604 cubic centimetres as its daily average. It was greater in the morning (2165 c.c.) than during the day (1737 c.c.) or at night (1701).

(c.) *The percentage of sugar*.—This continued nearly unchanged, being on an average 9.39 in 100 grammes.

(d.) *The total amount of sugar*.—In this a considerable increase was visible, while the farinaceous diet was continued. The average quantity of sugar daily excreted amounted to 526.4 grammes; and the urine in the morning contained more (201 gr.) than at noon (159 gr.) or at night (165 gr.).

3. The effect of animal diet on

(a.) *The specific gravity*.—It remained nearly unaltered by this regimen, as happened with both the other diets. Its average was 1037.2; and it was lower in the morning (1036) than at other times (1037).

(b.) *The amount of the urine*.—This was considerably diminished, the average quantity *per diem* being 4588 cubic centimetres. The average amount was much greater in the morning (1816 c.c.) than during the day (1324 c.c.) or at night (1448 c.c.).

(c.) *The percentage of sugar*.—This was also lessened, being, on an average, 8.232 in 100 grammes.

(d.) *The total amount of sugar*.—Here, likewise, a striking diminution was manifest. The average quantity daily excreted was 379.8 grammes; this was greatest in the morning (139 gr.), and less during the day (114 gr.) than at night (126 gr.).

Dr. von Dursch discusses several of the questions relative to diabetes, and brings to bear upon them the weight of his experience and careful observations.

As regards the disputed point, whether the quantity of the urine voided in this disease surpasses the amount of the fluids absorbed, he thinks that the question has not been properly considered, and that we ought to compare the amount of water in the urine, &c., with that contained in the food and drink taken. During his investigations he ascertained the amount of the cutaneous transpiration and pulmonary exhalation by frequently weighing his patient; and he also carefully noted the quantity of water contained in the fæces. He has succeeded thereby in satisfying himself that the water given off by the patient equals exactly the amount of the water absorbed by him.

In conclusion, the author believes, from all his researches, that diabetes principally depends on the sugar normally existing in the blood being undestroyed and unappropriated; and he is of opinion that all kinds of food are capable of producing sugar.

ART. 67.—*On the diagnosis of Renal Calculus.*

By Dr. BENCE JONES, Physician to St. George's Hospital.

(*Medical Times and Gazette*, May 24, 1854.)

These remarks upon the diagnosis of renal calculus occur in a recent Clinical Lecture by Dr. Jones. He says:—

“The complaints which may be mistaken for a nephritic attack, are lumbago and colic. I know of no certain means of distinguishing these diseases except the microscopic examination of the urine. The absence of vomiting in lumbago, and the seat of pain in colic, may lead you to a correct opinion; but the presence of blood-globules, when the urine is examined with the microscope, is the sure indication that the attack is caused by the descent of a renal calculus, and the affection of the testicle may be generally found confirmatory of this opinion. Do not think that in every case in which blood is found by the microscope in the urine a calculus necessarily exists in the kidney. Blood-globules may appear in the urine from simple congestion of the kidney in many diseases: from Bright's disease; from inflammation of the mucous membrane alone; from congestion or disease of the prostate; from scrofulous disease, or malignant disease; and, in some of these diseases, the difficulty of distinguishing between them and renal calculus is by no means easy.

“Be careful of expressing your opinion of the presence of a calculus in the kidney until you have the most decided evidence in the state of the urine. I have twice had supposed renal calculi sent to me for examination, which proved to be pebbles with which the patients intended to deceive their medical attendants, who, by asserting, that some day a calculus would pass, had induced their patients to try how easily imposition could be practised. Even when one true calculus passes, no opinion as to the perfect freedom of the patient from other calculi should be given until the urine has been found to remain perfectly free from blood-globules after strong exercise has been taken.”

ART. 68.—*The Diagnosis of Malignant and Scrofulous Diseases of the Kidney.* By Dr. BENCE JONES, F.R.S., Physician to St. George's Hospital.

(*Medical Times and Gazette*, June 17, 1854.)

In the subjoined remarks, Dr. Jones deals very frankly and clearly with this difficult subject. He says:—

“In arriving at the diagnosis of any case, the process usually consists in forming, with more or less care, a conjecture, and then determining by examination, whether that conjecture be true. In urinary disease, the conjecture first disposed of usually is, whether Bright's disease is present; then whether any concretion has formed in the passages; then the supposition usually is, whether simple inflammatory action be present; and finally, we generally ask the question, whether the symptoms agree with those produced by malignant or scrofulous disease. Though both these diseases are of rare occurrence, yet they are often the cause of doubt and difficulty, being sometimes mistaken for some other disease, and being at other times thought to be present when really they do not

exist. Neither of these diseases admits of satisfactory curative treatment, though in scrofulous disease the benefit sometimes obtained from medicine is so great, that even the medical man may, for a time, at least, be deluded by the hope of a perfect recovery. Hence I shall be able to speak of palliative treatment only; and the little I have to say would not justify me in choosing these diseases as the subject of a lecture, were it not, that in regard to diagnosis and prognosis, the utmost knowledge of both these diseases is most essential. For example, a patient has blood, pus, and albumen in the urine, with pain on making water, and irritable bladder. Do these symptoms arise from fatal scrofulous disease, or may he recover perfectly by passing a small calculus? Often the question has to be asked, is there simple chronic inflammation, or is malignant disease the cause of the inflammation. What, then, can be done, to distinguish between scrofulous and malignant diseases, and between these and calculus, or Bright's disease? When each of these different diseases is fully marked by its own most peculiar symptoms, no difficulty is met with in the diagnosis. When a patient comes with markedly phthisical aspect, with tubercles and vomicae detectable in the lungs, occasionally passing blood, and always pus, with sometimes shreds or granules of matter in the urine, it would not be easy to overlook the scrofulous disease of the kidney, or if another comes with malignant disease elsewhere, and urinary symptoms, with blood constantly in the urine, no more doubt would exist about malignant disease being present, than about Bright's disease existing when highly albuminous urine of low specific gravity, containing fibrinous casts, is passed, while the patient has general anasarca. Nor, if a few blood-globules only were found in the urine after exercise, while uric acid or oxalate of lime crystals were constantly present, and no other morbid appearance existed, would there be any great difficulty in the diagnosis of renal calculus. But the difficulties of diagnosis are not to be met with in model cases. Exemplary cases are scarcely more common than exceptional cases, in which either some of the usual appearances and symptoms are wanting, or other symptoms are present which do not agree with those that are generally observed."

And again—

"As far as I have hitherto observed, the microscope has not enabled me certainly to predict the presence of malignant disease of the kidney. I must say the same of incipient malignant disease of the bladder. The symptoms of this disease are more distressing than when the kidney is affected; but even when I have felt confident of my diagnosis, I have sometimes been unable to confirm it by the microscopic discovery of malignant cells, in consequence of the highly alkaline urine acting on the cells. In other cases, in which small masses of malignant matter were passed, the microscope has confirmed the diagnosis which the general symptoms had made most probable. Nor has the microscope, as yet, enabled me to speak certainly regarding the commencement of scrofulous disease. The means of distinguishing between scrofulous disease and calculus of the bladder or kidneys, are very insufficient; but by careful attention to the progress of the symptoms, more certainty may be attained than by the help of the microscope."

ART. 69.—The occurrence of Sugar in the Urine in a case of Acute Bronchitis. By Dr. GARROD, Physician to University College Hospital.

(*Pathological Transactions*, vol. v. 1854.)

In order to investigate the pathology of that most obscure disease, diabetes, it is necessary to examine carefully the various circumstances which lead to the production of sugar in the urine. Many different theories have been advanced. 1st. That it depends on some altered condition of the stomach (Bouchardat's theory), in which a species of ferment, or *diastase* is generated, leading to the conversion of all amylaceous matters of the food into glucose or diabetic sugar. It appears probable, however, that this conversion is a normal change in the animal body. 2d. That it depends on the excessive and abnormal production of sugar in the liver (Bernard's theory). 3d. That sugar appears in the urine from deficient action of the respiratory function, whereby the sugar, normally formed

from starch or amylaceous matters, is incapable of being farther changed and broken up into carbonic acid, water, &c.

"A few days since I was called to see a patient, a female, about 50 years of age, who had been suffering for ten previous days with acute bronchitis, and who had become much worse within twelve hours of my visit. I found the following condition:—skin of body moderately warm and moist; extremities rather cold, also tip of the nose; countenance dusky, and lips livid; tongue congested and dark red, rather furred; cough frequent, less than it had been; expectoration copious and purulent, not tinged; pulse 120, very weak and intermittent (it had been intermittent for about twelve hours); respiration 40. No abnormal dulness on percussion over the chest; but over the whole extent, breath sound, accompanied with sonorous, sibilant, coarse and fine mucous rhonchi.

"The patient had passed a small quantity of urine about 7 or 8, A. M., six hours before my visit, which was much clouded from the deposition of pink urates; and on ascertaining that she had taken, during the night, some arrow-root, it occurred to me that this case would be a good one to test the accuracy of the theory which has been propounded, viz., that 'sugar in the urine is dependent on the imperfect performance of the function of respiration.'

"*Examination of Urine.*—Abundant urate deposit of pink color, cleared by temperature of 100° Fahr.; when heated above 200° Fahr. again became cloudy from precipitation of albumen not redissolved by nitric acid; precipitate occupied about one-third of the height of fluid in the tube. Sp. gr. 1021, at 60° Fahr., and full acid reaction.

"As much albumen and urates were present, it was useless to depend either on Moor's test with potash, or on the copper tests, without previously removing most of such matters. I therefore added to the urine a solution of the tris-acetate of lead in slight excess, and, after filtration, treated the clear fluid with powdered bicarbonate of soda, and refiltered. The resulting solution was clear and colorless, and was thus tested:—

"A portion boiled for a minute or so with strong solution of hydrate of potash, gave an orange-yellow colored fluid, equal to that produced by one grain of glucose or diabetic sugar in an ounce of water, when heated in the same manner.

"A second portion was treated with Poggiale's solution of tartrate of copper dissolved in excess of potash; discoloration of the fluid, and a very distinct precipitate of red oxide of copper, took place on boiling for a few seconds; the precipitate was soluble in ammonia.

"Trommer's test was applied with equal success, and Poggiale's solution re-applied several times with invariably the same result.

"Another portion, $\frac{1}{100}$ th cubic inch, was put into a tube with a piece of the German yeast, and after allowing for the height of mercury in the tube, and temperature, it was found to yield $\frac{1}{80}$ th cubic inch of carbonic acid gas.

"A portion of the urine, before the addition of lead, was twice treated with yeast, and gave very distinct evidence of the presence of sugar, whereas another urine treated at the same time with the same amount of yeast gave no such indication.

"On concentrating the clear decolorized solution to about one-fifth of its volume, and then endeavoring to ferment, I found no indication. The same occurred when treating the urine itself in the like manner; and, I may add, for I consider it a point of some importance, that, on adding sugar to urine and afterwards reducing its bulk, the fermentation was equally prevented, the presence of salts in large quantities having the power of arresting the process. I find that by some, concentration has been recommended, and therefore I mention this fact."

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 70.—*The advantages of the ethereal solution of Nitrate of Silver in Erysipelas, &c.* By Mr. WARD, Assistant-Surgeon to the London Hospital.

(*Medical Times and Gazette*, Oct. 14, 1854.)

The writer of some short notices of Hospital Therapeutics, in the *Medical Times and Gazette*, writes thus of these advantages:—

Every one who has tried it is aware that the application of a watery solution of the nitrate of silver over a large extent of skin is a troublesome and patience-requiring process. The fluid does not dry quickly, and it runs about, being prevented, by the greasiness of the skin, from being rapidly absorbed. A plan which we see adopted by Mr. Ward, in the London Hospital, obviates very completely these difficulties. It consists in making the solution with the common nitric ether, instead of water. The ether acts as a solvent of any sebaceous matter which may be on the skin, and, from its volatility, very quickly dries in, producing, at the same time, a sensation of coolness very agreeable to the patient. If wished, several coatings may be applied successively to the same part with loss of but little time. The strength which Mr. Ward generally employs is eight grains to the ounce, but it may, of course, be modified according to the wishes of the surgeon. The use of nitrate of silver externally in erysipelas and other low forms of inflammation of the skin, is a very favorite practice in most of the London hospitals,—either an aqueous solution, or the solid stick moistened being usually employed. Mr. Ward informed us, that the use of the ethereal menstruum was not original, but had been suggested to him by a gentleman by whom he had been consulted.

ART. 71.—*Arseniate of Iron in herpetic and squamous Eruptions.*
By M. DUCHESNE DUPARC.

(*Gaz. des Hopitaux*; and *Medical Times and Gazette*, Sept. 2, 1854.)

M. Duchesne Duparc has read a memoir on this subject before the Academy, at the conclusion of which he advances the following propositions as the result of his researches:—

1. Arseniate of iron possesses, in common with all other arsenical preparations, unquestionable remedial properties, applicable to the treatment and cure of herpetic and squamous affections of the skin.

2. The great advantage of that substance is, that it may be administered in sufficient doses without giving rise to any of the consequences with which various other arsenical preparations have been justly reproached.

3. The arseniate of iron, whether given singly or in combination with other substances, ought always to be administered in graduated doses, commencing from $\frac{1}{10}$ th, $\frac{1}{6}$ th, or even $\frac{1}{2}$ th of a grain, according to the age, the constitution, and, above all, the state of the digestive organs of the patient.

4. Numerous facts, accurately observed, authorize M. Duparc in concluding, that a daily dose of $\frac{1}{2}$ th of a grain of arseniate of iron uninterruptedly repeated during the necessary time is competent in the adult to effect the cure of an herpetic or squamous affection, however extensive or long-established.

5. No absolute rule can be laid down with respect to the duration of the anti-herpetic treatment by arseniate of iron, for this must vary in accordance with the differences of age and constitution, the extent and severity of the disease, and, more than all, perhaps, in proportion to the degree of toleration which the digestive organs manifest for the remedy.

6. An anti-herpetic treatment by arseniate of iron in no degree excludes the employment of topical remedies of acknowledged utility, and it is materially assisted by the internal or external use of certain non-sulphuretted mineral waters. MM. Serres, Andral, and Rayer have been commissioned to inquire into the merits of this new remedy.

ART. 72 — *On the treatment of Favus.* By Mr. STARTIN.

(Medical Times and Gazette, June 10, 1854.)

Speaking on this subject, the writer of the Report of "the London Practice of Medicine and Surgery," in the *Medical Times and Gazette*, says:—

From the observation of about a dozen cases of severe favus (diagnosis by the microscope in all) recently treated by Mr. Startin, at the Hospital for Skin Diseases, we can speak with great confidence of the efficiency of the following ointment. It is the Ung. Sulph. Comp. of the Pharmacopœia of that Institution.

R Sulph. sublimati, ℞ss;
Hydrarg. Ammonia-Chlorid. ℥ss;
Hydr. Sulphureti cum Sulph. ℥ss;
Leviga simul, dein adde Olivæ Olei, ℥iv;
Adipis Recentis, ℥xvj;
Creosoti, ℥xx. M.

To correct the state of general health, Mr. Startin commonly orders simultaneously a mild course of the iodide of potassium, but this, we suspect, has but a small share, if any, in the local result. Often when the scalp has been for many years thickly covered with the peculiar favus crust, four or five nightly applications of the above ointment have sufficed to make it perfectly clean. So long as the patient will continue regularly to use a small quantity every day, the disease may be prevented from reappearing, and the condition assumed by the scalp under its influence might easily be mistaken by the inexperienced for one of complete cure. As soon, however, as the inunction is suspended, the eruption reappears. This liability we have known, in more than one case, to extend over nearly a year, and probably it may for much longer periods. The ointment, however, which does not smell much, need only be applied at night, and may be washed entirely away every morning, so as to entail but little inconvenience on the patient. The hair will, to a considerable extent, grow during the treatment, provided that the scalp have not been too much destroyed. In a most disgusting disease, for which as yet no real cure is known, it is much to be in possession of an almost certain means of ensuring its absence. The ointment no doubt acts as a parasiticide. Before its first application it is desirable to clear away the crust as much as possible, either by fomentation or a poultice.

We may remark, that the ointment mentioned is used by Mr. Startin in the treatment of scabies, and also in that of the contagious form of porrigo.

ART. 73.—*The larva of the Œstrus Bovis in the Human Subject.*

By Dr. J. MATTHEWS DUNCAN.

(Edinburgh Monthly Journal, July, 1854.)

At the meeting of the Medico-Chirurgical Society of Edinburgh, held on the 3d of last May, Dr. Duncan exhibited a specimen of this larva, which he had extracted from the skin of a girl, aged twelve years, who had lately come from the country, where she had been employed in herding cattle. There was a small tumor, like a boil, with a small opening on its apex. There was, however, no redness or appearance of inflammation. On attentive examination, Dr. Duncan saw something moving in the interior, and without difficulty extracted the larva alive; a little fluid containing blood and purulent matter escaping at the same time. The animal consisted of eleven segments, and presented all the characters of the larva of the *œstrus bovis*. On inquiry, Dr. Duncan found that it was the third which the girl had observed on her person. It appeared that she distinctly remembered having been severely stung while engaged attending on the cattle in the summer. About the end of February, she felt a swelling on the spot of the sting, which moved about, ultimately becoming fixed. The second one appeared on the back of the neck; and, in the present instance, the worm was first perceived over the spine, at the dorsal vertebræ; it then progressed into the neck, disappeared, and was again felt on

the right side of the neck, whence it was extracted. It was well known that the ova of *œstrus bovis* are deposited in the autumn on the backs of the black cattle; they remain there during the whole winter; increase in size in early spring; form a nidus, and live on pus—the result of the irritation of their presence; they get very large, and fall out, and, after creeping a short distance, become torpid, and assume the chrysalis form, and in the course of the autumn, that of the full fly. (*Vide* the researches of Bracy Clark, Reaumur, etc., etc.) No human bot has been described; indeed, its existence is highly problematical, as it would be easily discovered and described, and in a single season entirely extirpated. In Europe, none of the *œstridæ* infest man. In Surinam and the West Indies, a few cases are on record of their occurrence. Humboldt, in his travels, makes an indistinct allusion to a parasite of this kind, which infested the bellies of the Patagonians.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

(A) CONCERNING TUMORS.

ART. 74.—*Appearances of Retrogression in Cancer.* By Dr. T. MARKOE.

(*New York Journal of Medicine*, July, 1854.)

At a late meeting of the New York Pathological Society, Dr. Markoe exhibited specimens of cancer,* taken from a woman who had been under his care some two years, and gave the following history of her case:—She died at the age of 51. In one of her breasts there appeared, some years ago, a slight discolored spot, which soon assumed the form of a tumor, and at length grew to occupy the whole centre and substance of the breast. Soon after the tumor had progressed thus far in the first breast, a similar tumor made its appearance in the other breast, and progressed in the same insidious manner, without inflammation or redness, and, at first without much pain. As the breasts grew to a considerable size, they became hard, and she suffered a great deal of pain. This period lasted about four years, during which the progress was very slow and gradual. About this time she came to this country from England. For a year or more after her arrival, no apparent change took place, except that both breasts had become nearly of a size; they were as large as the two fists, hard, and insensible. She made use of some quack remedies, which had the effect, after a year or two, of reducing the volume of the breasts; they also became less painful, and the skin was shrivelled and horny, so that the nipple began to look like a warty excrescence. There seemed to be a flat indurated substance under the nipple, with hard lines passing from it. At this period she came under Dr. Markoe's care, not on account of her breasts, for she supposed they were in a fair way of being cured, but for some vague affection in the hypochondriac and epigastric regions. Upon investigating these symptoms he was led to suspect a transfer of the disease of the breast to some of the internal organs. Flatulence was a symptom throughout the progress of the disease. After a time the abdomen became somewhat distended with fluid, which increased until the case became a fair one of abdominal dropsy. He put her upon a mild mercurial course, which unexpectedly produced a severe ptyalism. For a time after this, she was again so much more comfortable that he ceased to attend her. Finally, she again sent for him, and he found that the dropsy had reached a point which threatened suffocation. He proposed tapping, but she refused until suffocation became imminent, when she yielded, and he drew off twenty-one quarts. Symptoms threatening peritonitis supervened, but soon subsided, and she rapidly recovered. The tapping was repeated at intervals of five to seven weeks while she lived; the quantity of fluid removed increasing at each repetition of the operation, from twenty-one quarts at the first, to 35 quarts at the eighth. After each tapping, she would get up, and resume her business, and continue thus until the distension of the abdomen became so great as to compel her to seek relief in the operation. Previously to the last operation, she was attacked with vomiting, or rather rejection of her food. She died exhausted by the long continuance of the disease, the rejection of food, and excessive pain.

On post-mortem examination, three or four quarts of clear, transparent serum were found in the abdomen. The viscera presented a beautiful appearance; the intestines stood out in relief, as if injected with plaster; the surface was studded with tuberculous-looking masses, closely packed together, varying in size from a pin's head to a pea; and scattered here and there were little transparent vesi-

* The diagnosis was not confirmed by the microscope.

cles, containing fluid. Around these little masses there was a peculiar vascularity, and the whole surface of the small intestines were more or less agglutinated by old false membrane. The principal seat of this deposit was in the small intestines, but the spleen was covered entirely with something of the same nature. A portion of the liver was attached to the ascending colon; the parietal peritoneum, though not injected in the same way, presented the same tubercular appearance. He supposed he had found, in the evidences of chronic inflammation, the cause of the dropsy; but further examination revealed the portal vein compressed by the deposit of new matter in that portion of the mesentery which enclosed it, this deposit extending along the vein to the liver. The vein itself was healthy. This condition of the vein was probably the principal cause of the dropsical symptoms.

At the lower part of the abdomen, he found a condition of things which he had not before seen. The whole of the intestines appeared as if their cavity was injected; they could be felt, through the abdominal wall, after each tapping, like coils of rope. The explanation of it was here seen; the coats of the intestines were infiltrated with this matter, so that they were thickened and swelled out like a solid cord. It was not easy to recognize a canal in the upper part of the rectum, but the lower portion was more natural. The same deposit covered the uterus and ovaries; a fallopian tube had been caught in one of the serous cysts upon the ovary, and was stretched out as a broad band over it. The new deposit, whatever it was, seemed to be confined to the peritoneum and portal vein.

The breast was in the same condition as when she first came under observation, two years before.

On section, the knife passed through a dense yellowish white substance, having the appearance of partially dried fibrous tissue, and spread out in a layer of about one-third of an inch thick under the nipple, to which the nipple was attached. No trace of the normal structure of the gland was apparent. The shoulders and back were covered with tubercles under the skin; the muscle and bone seemed to be perfectly healthy.

The most important feature in this case, was the fact of an apparent absorption or retrogression of a cancerous tumor. The history of the breasts would establish pretty clearly that it was a case of cancer; and if we could determine that the abdominal deposit was cancerous, it seemed to be a pretty clear case of partial disappearance and atrophy of a cancerous tumor, with reproduction in another part. One symptom which seemed to him as most certainly indicating the character of the disease, was the hard tubercles all over the shoulders and back, which by their prominence made the surface irregular. He was not, however, fully satisfied of the cancerous nature of the deposit, but its general appearance led him strongly to suspect it. The only other deposit would be tubercular, but in this case there would have been false membrane effused, which did not exist in any considerable degree. Every part was examined except the brain; in one part of the lungs there was a very little of this tuberculous-looking matter. As this was a point of much importance, he had made a careful examination. The heart presented one very small tubercle, as large as half a pea, just above the place where the coronary artery curves around the base of the auricle. He could not ascertain that there was any hereditary predisposition.*

ART. 75.—*Suppression of Cancer in the Breast by the use of cold, followed by the development of the disease in other Organs.* By Mr. SIMON, F.R.S., Surgeon to St. Thomas's Hospital.

(*Pathological Transactions*, vol. v., 1854.)

This case has an important practical bearing.

CASE.—A. D., calling herself 36 years of age, but probably, in fact, ten years older, came under Mr. Simon's care, at St. Thomas's Hospital, in the autumn of

* This case derives additional interest when read in connection with the cases reported by Dr. Ashwell, and reported in our last volume, in which cases uterine tumors disappeared spontaneously.

1852, having, in her left breast, a hard tumor (diagnosed as scirrhus), which, in the preceding seventeen months, had grown from the size of a hazel-nut to that of an orange.

On careful examination of the axilla some glandular enlargement could be discovered there. The patient was, generally speaking, in bad health, suffering from gastrodynia and considerable chronic bronchitis, and having had (it was said) hæmoptysis occasionally to some extent. Mr. Simon dissuaded her from having the breast removed.

When the case was first seen, there was some inflammatory excitement about the tumor; temporary advantage was obtained by leeches and pressure, but, in the course of October and November, the complaint was advancing, with almost constant and severe pain.

Mr. Simon, finding himself unable to diminish this symptom by the local use of opium and belladonna, ordered, at the beginning of December, that a bladder of pounded ice should be applied to the breast, once a day. It was to be kept there, in the first instance, for about half an hour, but the length of each application was increased from day to day, till the congelation was continued for two hours and more at a time.

From the moment of its first use, the patient expressed great relief, and, within a fortnight, declared that her tumor was going. This proved to be the case. The decrease advanced with striking rapidity, and, in thirty-four days from the beginning of the treatment, A. D., at her own desire, and believing herself cured, ceased to be an in-patient of the hospital.

At this time (Jan. 8th, 1853), the tumor had so far gone, that there was no visible fulness of the breast, nor any rounded tumor in it; but merely some flat fibrous-feeling induration, over which the skin was adherent. No pain whatever was experienced either in the breast, axilla, or arm; and the patient had gained apparently as much in general condition as in regard of the local disease.

In this state she remained under notice for a month or two, occasionally visiting the hospital, and was then lost sight of.

About the middle of October she again appeared at the hospital, seeking re-admission, on account of sufferings occasioned by internal disease.

The breast was still free from any active growth: but, here and there, round about it, small tubercles of cancer existed in the skin. The patient's main ailment was referred to a large hard tumor at the epigastrium. She had frequent vomiting (sometimes of blood) and incessant pain. She was already much reduced in health; and this decline continuing, with increased urgency of her gastric distress; she died on the 1st of December, six weeks after her re-admission to the hospital.

The breast, which was not of large size, was indurated and scirrhous, and its integuments presented small cancerous tubercles. The glands in the adjacent axilla, and some of those above the clavicle were enlarged and cancerous.

On the surface of both lungs were, scattered in large numbers, patches of malignant growth, which appeared to be exclusively confined to the serous and sub-serous tissues. The lungs themselves were free from such disease, but their apices contained a few small chalky concretions. The parietal pericardium was similarly affected to the visceral pleura, but that enveloping the heart was healthy.

The surface of the peritoneum, especially where it covered the liver, stomach, intestines, and mesentery, was thickly studded with cancerous patches. The liver was much enlarged, very irregular in form, and consisted, in great measure, of masses of rather firm encephaloid cancer, between which a small quantity of tolerably healthy liver-structure still remained.

The uterus presented several fibrous tumors, of which two were as large as moderate-sized oranges, and were internally in a softened and partially disintegrated condition. All other organs were healthy. The breast-cancer presented no microscopic peculiarity, further than that the fibrous element was even more in excess than is usually the case. The malignant deposit in the organs differed in no important respect from that in other cases of the kind. The softened state of the uterine tumors, associated as it was with some accidental alterations of color, at first suggested the idea that they were also the seat of malignancy.

nant disease ; such, however, was not the fact, for no abnormal cell-formation was detected in them, and the ruptured parts, equally with the firm, consisted of undeveloped muscular fibres, the only difference being, that in the former they were much more loosely arranged than in the latter.

ART. 76.—*On a Cutaneous Tumor called "Pachydermatocoele."* By Dr. VALENTINE MOTT, Professor of Surgery in the University of New York.

(*Transactions of the Medico-Chirurgical Society*, vol. xxxvii, 1854.)

The dermoid tissue is liable to a greater variety of diseases than any other tissue in the body ; and among the rarer forms of morbid changes, that which forms the subject of the present paper seems the most remarkable. The author believes that strong mental impressions on the mother's part may leave physical traces upon the infant's body, and he is inclined, at least in one case, to refer the disease now under consideration to some such cause. His description is drawn from five cases, in all of which the disease had commenced in a small congenital brown mole or spot, and had increased with the years of the individual, until, as in three of the cases, the morbidly-changed parts presented hideous and disgusting deformities. They have all been more brown than the surrounding integuments, flabby, and very like a relaxed and very emaciated mamma. In several of the cases there were two and three layers, or storeys, resembling, in one upon the neck, the fanciful and successive turns of a tippet, or the folds of a rich maroon velvet curtain. There is no great amount of vascularity, nor does the growth shrink much when separated from the living parts. The subdermoid areolar tissue seems to be hypertrophied, but there is very little appearance of bloodvessels upon the cut surface. The tumor may return, hence careful pressure is requisite during the granulating stage of the wound after extirpation. The sense of feeling is mostly numbed ; in only one case there was ulceration, but the secretion of an acrid discharge rendered constant ablution, with subsequent powdering, absolutely necessary. An account of the microscopical examination of the morbid tissues is furnished by Dr. Sweet, and the cases are illustrated by four large colored drawings. The author extirpated the morbid parts when practicable.

(B) CONCERNING WOUNDS AND ULCERS.

ART. 77.—*On "Elkoplasty."* By Dr. HAMILTON, Professor of Surgery in the University of Buffalo.

(*New York Journal of Medicine*, Sept., 1854.)

Dr. Hamilton proposes to treat ulcers in which the destruction of skin is too great to allow of healing, by grafting into them a piece of skin from the opposite limb, or from the limb of another person ; and he illustrates this proposal by a case which must speak for itself, as to the merits or demerits of the operation. The idea first occurred to Dr. Hamilton in 1846, but it was not then carried into effect. The term "elkoplasty" is derived from *ulcus*, ulcer, and *πλεστω*.

CASE.—This case was read before, and the patient exhibited to, the Buffalo City Medical Association. Dr. Hamilton writes:—

Horace Driscoll, æt. 30 years; Irish laborer ; had the skin and flesh extensively torn from the right leg by a dirt car, on the 3d of November, 1852. He has been in the hospital most of the time since then until now. The wound has nearly healed several times, but never entirely ; after exercise the whole would give way, and the ulcer again extend itself completely around the leg.

Jan. 21, 1854, I made the following operation:—

The patient was laid upon his belly, upon the operating table before the class. A flap of skin measuring seven inches by four was then raised carefully from the calf of the opposite leg, extending in depth through the cutaneous and celluloso-adipose texture, until the fascia was in sight. Its remaining attachment to the body was by a broad and thick base. The hemorrhage was slight ; no vessels were tied. Lint, spread on both surfaces with simple cerate, was laid between the flap and the surface from which it had been detached, other pledgets

of lint similarly covered were placed on the outer surface, while over all and around the entire limb was wrapt a large mass of cotton batting, secured in place by a lightly turned roller.

He was then laid in bed, and perfect quietude enjoined.

Jan. 22d.—During the night the wound has bled until the patient looks pale from the loss. The bleeding has now ceased.

Feb. 4th.—Two weeks since the flap was raised. The patient has had to be sustained with beer, his appetite having failed very much since the operation. The flap has been dressed in the same manner as at first, nearly every day. It looks healthy. No part of it has sloughed.

To-day the operation was recommenced before the class, by dissecting out the granulations and part of the cicatrix from the diseased leg, and thus forming a deep bed of the size and shape of the flap as it now appeared, both contracted and thickened. The flap was then made raw again on its margins, and its lower surface was shaved off, with the double purpose of removing the granulations, and of diminishing its excessive thickness. When the bleeding had ceased, the left leg was carried across the right, so that the tendo-Achilles and heel of the left leg rested upon the instep and ankle of the right—a thick cotton pad being interposed to prevent painful pressure. The flap was now brought snugly into its new bed, on the right leg, and well secured with interrupted sutures, a moderate compress, and roller. The two limbs were further secured immovably to each other by bands, and protected at various points by well made compresses, and the wounds carefully covered with lint spread with cerate.

Feb. 5th.—The wound has bled again, as after the first operation, although ice was applied diligently from the moment the dressings were completed. Much pressure was regarded as inadmissible. Bleeding ceased when he became faint, about three hours after the operation.

Feb. 18th.—Two weeks since the last operation, and four weeks from the first. Patient has required to be sustained constantly with beer and nourishing diet. His appetite still remains bad. Bowels have not been moved in two weeks. He has not suffered much pain, only fatigue. To-day the base was separated from the left leg, the flap having united through most of its edges and under surface, to the opposite leg. No bleeding of consequence followed. The parts were thoroughly washed and dressed with *ung. basil.*, and a snug roller applied. Ordered sulph. mag. \mathfrak{zj} .

Feb. 19th.—No movement of bowels. Repeat sulph. mag.

Feb. 20th.—One corner of the extreme end of the flap is beginning to slough.

Feb. 21st.—Bowels have moved. Sloughing of flap continues. Ordered yeast poultice.

Feb. 25th.—Line of demarcation formed, insulating about one inch and a half of the flap, at the corner where the sloughing commenced.

Beyond this the sloughing never extended. The surfaces continued to close, and about one hundred days after the flap was laid down the healing was finally consummated, and now, after a lapse of nearly three months, during which he has been acting as a subordinate dresser at the hospital, the ulcer has not reopened or shown any tendency to do so.

The wound, made by the removal of skin from the left leg, was completely healed over in about the same length of time as the ulcer on the right, and the whole left limb is now as sound and as perfect as before the operation.

Discoll is, however, at present, by no means a sound man. His health has suffered considerably from his long illness, and from his prolonged confinement in bed, which dates from the time of the accident, through most of the period up to the time of the closing of the wounds since the operation. The cicatrix around the new skin is tender, and especially at one point where several pieces of bone exfoliated soon after the accident, and precisely over which, unfortunately, the sloughing of the flap took place. The ankle is also somewhat stiffened by the contraction of the skin, and of the gastrocnemii and tendo-Achilles, which latter were seriously involved in the original injury. These, however, are conditions which the operation did not propose to remedy, at least only in a small degree, or they are temporary accidents, and will certainly yield

to time and careful use. If they were to continue, however, it will not be denied that, in the permanent healing up a sore, which, but for this operation, must probably have remained open during life, he is amply repaid for all that he had suffered at my hands. I venture to predict that, within one year from this time, he will be able to labor nearly or quite as well as before the accident.

On the 12th of March, five weeks after the flap had been transplanted, it had united by adhesion to the adjacent skin, through about one half of its circumference. The other half was surrounded by a border of granulations and of new skin, varying in breadth from one to ten or fifteen lines; but only at a few points was the bridge of new skin complete. It was especially noticed that nearly all, probably nine-tenths, of this new skin had sprung from the margins of the flap, and only the remaining fraction from the adjacent cicatrix; demonstrating that, after transplantation and complete separation from the parent limb, its vitality was unimpaired, and that its reproductive power, if I may so speak, was vastly superior to the reproductive power of the old cicatrix.

You may notice to-day, also, that, since the cicatrization was completed, the cicatrix formed by growth from the flap, has contracted; and that, in consequence of this contraction, the flap has become expanded, or been stretched outward, and its surface has become flattened and firm, whereas, it was, at first, and for a long time, elevated above the surrounding skin, and flabby.

ART. 78.—On "*Water-Strapping*" in place of ordinary *Sticking-Plaster*. By MR. HOLTHOUSE, Assistant-Surgeon to the Westminster Hospital.

(*Transactions of Medico-Chir. Society*, Vol. xxxvii, 1854.)

The object of Mr. Holthouse, in this paper, is to direct the attention of the profession to the superiority of wet-strapping over ordinary diachylon plaster in the treatment of ulcers and certain cutaneous affections of the extremities, as advocated by Mr. Chapman, and to recommend its adoption in injuries and diseases of the joints, and in dressing stumps after amputation. The advantages of this application over plaster are:—

1st.—Its innocuousness, being entirely free from the irritating effects of the plaster, and never producing inflammation of the skin, or the eruption of pustules or vesicles.

2dly.—The comfort the patient experiences from its application.

3dly.—Its cleanliness.

4thly.—The ease and quickness with which it is removed, from its not adhering to the hairs of the part.

5thly.—Its cheapness.

6thly.—It may be made the vehicle for the application of the remedies.

The material made use of, may consist of linen or calico, bleached or unbleached, and the older it is, provided it be not rotten, the better it answers the purpose. It must be cut or torn into strips of varying length and breadth according to the part to which it has to be applied; the strips must then be immersed in water till thoroughly saturated, when they are fit for use. If the disease to be treated be an ulcer on the leg, the strips should be about two inches in breadth, and of a length exceeding somewhat the circumference of the limb; they should then be applied exactly in the same manner as plaster, each piece overlapping a portion of the one immediately below it; in fact, the directions given by Mr. Baynton for strapping up the limb may be strictly followed in the application of the water-strapping, save and except that his directions to remove the hair from the part may be dispensed with; a roller must afterwards be applied in the ordinary manner.

Four cases in illustration of this method of treatment, and of its beneficial results, are given; one being an ulcer of the leg of fourteen years' standing, that had resisted repeated attempts to heal it at other hospitals; another, a case of eczema impetiginodes, affecting both lower extremities, and of three years' and a half duration; a third was a case of a crushed thumb, followed by gangrene and subsequent amputation; and the fourth was an amputation of the thigh, for extensive disease of the knee-joint and upper third of the leg.

(C) CONCERNING DISEASES OF THE BLOODVESSELS.

ART. 79.—*A case of Varicose Aneurism cured by injection of Perchloride of Iron.*
By M. JOBERT.

(*Comptes rendus*, June, 1854.)

Two injections were practised in this case. The first produced no decided result; the second gave rise to serious local and constitutional symptoms. These symptoms subsided, and the aneurism was cured, but M. Jobert was so convinced of the risks which had been run, that he thinks this practice ought not to be adopted where there are any signs of inflammation or degeneration in the sac.

CASE.—L. Loel, æt 18, was admitted into the Jewish Hospital on Feb. 20th, for a varicose aneurism at the bend of the right elbow, which aneurism had resulted from a bleeding which had been practised in the same institution for an attack of acute bronchitis about a month previously. On the same day, M. Jobert injected five drops of the iron solution, after having compressed the brachial artery, and with little result of any kind. Four days later, M. Jobert repeated the operation, injecting six drops of the solution on this occasion. The immediate consequences were, severe pain in the sac, and in the direction of the radial and ulnar arteries, and contraction of the muscles of the forearm. These symptoms were soon followed by high fever. Three days afterwards these symptoms had subsided in a great measure. There were still muscular twitchings in the forearm, but the tumor might be pressed without pain. The tumor, also, was solid and hard, without pulsation or murmur, and the coagulum could be felt extending, to some extent, into the brachial artery. Two months later, the state of the elbow had undergone no alteration, and the muscles of the forearm were still weak, and subject to twitchings; and such is the present state of the patient.

ART. 80.—*On Perchloride of Iron injections in the treatment of Aneurism.*
By M. GIRALDES.

(*Gaz. des Hôpitaux*; and *Medical Times and Gaz.*, July 1, 1854.)

M. Giraldes has published, in an interesting memoir, an account of thirty-five experiments by the injection of the perchloride of iron into the arteries of animals. These experiments were commenced in the month of April, 1853, and continued to the month of March, 1854. They prove that a few drops of the perchloride of iron, of variable density, injected into the carotid artery of a horse, coagulate the blood contained in a portion of the vessel somewhat less than an inch in length. Thus, two drops at 49° areometer of Beaumé, three drops at 30°, and six drops at 15° produce this coagulation. The changes produced upon the blood and upon the walls of the vessel by the coagulating agent vary, *cæteris paribus*, according to the density of the perchloride. Five drops at 49° mummify (*momifiant*) completely the blood contained in the artery. The same quantity of the perchloride at 15° to 20° produces a sort of clot formed by blood combined with the salt of iron and by normal fibrine. But the action of the coagulating liquid is not completely exhausted upon the blood; it extends to the coats of the artery. In the first case, these membranes become disorganized; they present a yellowish-brown discoloration; become thinned, horny, and in fact mortified. In the second case, the membranes of the artery are modified by the action of the chemical agent, but this modification is much less intense, and does not amount to disorganization. The epithelium and the internal coat are destroyed; the middle coat, having lost its contractile properties, yields to the impulse of the liquid, and dilates; its circular fibres are easily seen upon the inner surface of the vessel. This condition is accompanied by yellowish discoloration of the fibres of the middle coat, and by their adherence to the clot. It may be asserted, that the injection of the perchloride of iron into an artery is always followed by these modifications:—

1st. The formation of a clot.

2d. Modifications in the organization of the arterial tunics.

The clot offers different characters, according as produced by an injection of the perchloride at 45°, 49°, or 30°. In the first case, it is compact, homogeneous, and formed in totality of altered blood; in the second, it is formed by a mixture of blood, altered by the salt of iron enveloped in a large quantity of normal fibrin. These primary clots are followed by the formation of two others, one on the side of the heart, the other towards the periphery.

The coats of the artery present very important modifications in their organization; whenever the experiment is made with perchloride at 40°, they become disorganized; they are reduced to the state of foreign bodies, and require to be cast off. But if the experiment is made with perchloride of 15° to 30°, the changes are of quite another character. The middle coat becomes hypertrophied, contracts adhesions with the clot, which it tends to encyst in the cavity of the vessel. The external coat is infiltrated by a fibrinous matter, plastic lymph, which may extend for some distance. After these first formations, there is established in the diseased structures a process of elimination and repair. The process of elimination takes place when both artery and clot are disorganized; they soften and are cast off. These changes may extend to some distance, when the feeble connection between the coats of the vessel and the secondary clots gives way, and fatal hemorrhage ensues. The work of repair is established when both clot and arterial tunics are completely organized. The clot may soften without decomposing. But when the process of repair goes on favorably, it becomes encysted in the vessel, adheres intimately to the artery, and obliterates its calibre. As these phenomena proceed, both the plastic formations and the secondary clots disappear.

The injection of the perchloride of iron into an artery may, therefore, give rise to two classes of phenomena, primary and secondary.

The primary phenomena are:—

1. The formation of primary and secondary clots.
2. The infiltration of plastic lymph into the sheath of the artery, and adherence of the clots.

The secondary phenomena are:—

1. The elimination of the disorganized parts.
2. Hypertrophy of the middle coat.
3. The encysting of the clots.
4. The disappearance of the secondary clots and of the plastic formations.
5. The occlusion of the artery.

The conclusions to which Dr. Giraldes arrives are:—

1. The perchloride of 49° to 45° should not be employed either in aneurisms or in erectile tumors, its use may be followed by serious accidents.
2. In aneurisms and in erectile tumors, both venous and arterial, the perchloride should be either of 30° or 20° areometer of Beaumé, in the proportion of 5 drops of 30°, 10 drops of 20°, for a quantity of blood equal to 3 cubic centimetres.
3. The perchloride of 45° to 49° may be used as a hæmostatic to stop deep hemorrhages, or secondary hemorrhage after operations.
4. The perchloride of 15°, 20°, or 30° may be advantageously employed in hæmatic cysts, especially when they occur in the neck.
5. In certain cases, the perchloride of 30° to 49° may be employed to modify the condition of wounds in suppuration.

(D) CONCERNING DISEASES OF BONES AND JOINTS.

ART. 81.—*The advantages of Actual Caution in some cases of Articular Disease.* By Mr. SYME, Professor of Clinical Surgery in the University of Edinburgh.

(*Edinburgh Monthly Journal*, July, 1854.)

The case related below, occurring in Mr. Syme's practice, and reported by Dr. Lister, the resident surgeon in the Edinburgh Infirmary, exemplify, in a very striking manner, the beneficial effects of the actual cautery in certain forms of articular disease. Many similar cases have been reported, since the time when this application of the actual cautery was first introduced into England by Mr.

Syme, but as yet the practice has attracted little general attention. Case IV. is interesting from the fact that caustic issues had long been tried in vain.

CASE 1.—Omalgia ; Application of the Actual Cautery ; Cure.—Margaret Ashton, æt. 25, admitted October 25th, 1853 ; a servant ; has generally enjoyed good health, and has a very robust appearance. Four months ago, after exposure to wet and cold in washing, she had a severe fit of shivering, and was seized a few days after with pain in the right shoulder, just below the acromion, so severe that she could scarcely lift the arm ; this lasted about twelve hours, and was followed in the course of the next day by intense pain in the left shoulder, below the back part of the acromion. From that day till her admission she was unable to raise the arm ; the pain was for the first two months extreme, keeping her as if “in the fire all night,” and banishing sleep almost entirely. During the last two months she has rested from work, and had suffered less. On admission she complained of constant gnawing pain in the left shoulder, and extending down the limb as far as the elbow, and sometimes to the fingers ; when in the sitting posture, she held the affected limb with the other hand, to ease the pain ; the arm was also affected with a feeling of numbness and weakness ; and although the shoulder was not very tender on pressure, and very gentle passive motion of the arm could be performed, through a considerable angle, without pain, yet any attempts on her own part to move it, produced great aggravation of her sufferings. As a result, no doubt, of habitual disuse, the muscles about the shoulder were much atrophied, and this caused a remarkable apparent prominence of the bony points, viz., the spine of the scapula, the acromion, the anterior border of the outer part of the clavicle, and the head of the humerus. The shoulder had an appearance that suggested at first sight the idea of dislocation.

On the 3d of November, the patient being under the influence of chloroform, Mr. Syme cauterized thoroughly the skin over the anterior and posterior aspects of the joint, rubbing a red-hot cautery iron freely backwards and forwards four or five times over each part. It had the effect of raising and rubbing off the cuticle, but did not char the skin. An hour afterwards the patient was suffering but little pain.

Nov. 4.—Said, with a smiling countenance, that she slept well last night, the first time for four months, and feels now no pain save that of the burns.

Nov. 5th.—A poultice was applied yesterday ; the pain of the burn is now gone, and she feels *no pain at all*. Says that she has not only lost all pain, but also that the feeling of numbness is gone from the limb, and that she seems to have more power in it. The burned parts present a white sloughy appearance.

The poultice was continued till the sloughs separated, when simple cerate was substituted for it, with the view of retarding, rather than promoting, cicatrization.

Nov. 12th.—To-day she has been trying to lift the arm, and felt none of the old pain in the attempt.

Jan. 31st, 1854.—She has to-day left the Infirmary. She has for some time past been gradually acquiring more and more power in the limb ; she can move the arm backwards and forwards for a considerable extent, and even raise it slightly. The movements of the forearm are free ; there is no tenderness whatever about the shoulder. The return of the use of the limb has been accompanied with a restoration of the fulness of the muscles, so that there is now no difference between the contour of the two shoulders. She continues quite free from spontaneous pain.

I saw her again towards the end of May. She was still quite free from pain, and there remained only some stiffness about the joint that prevented her from raising the arm to the full extent.

CASE 2.—Disease of Shoulder-joint ; Actual Cautery ; Cure.—Lily Kay, æt. 50, admitted March 23d, 1854. Has generally enjoyed good health, except that for the last twelve years she has suffered inconvenience from what she supposed to be rheumatism in the right shoulder, characterized by shooting pain, occurring more especially when she attempted to lift anything. In January last the limb became completely disabled from increase of the pain, which now assumed a gnawing as well as a shooting character, and also began to be felt in the elbow-

joint, and in the arm, forearm, and hand. At this time she first observed the existence of swelling about the shoulder-joint.

The pain continued to increase till the time of her admission into the Infirmary, when it was exceedingly severe; not constant, but frequently keeping her awake at night. She was unable to raise the arm from the side, and had a sense of weakness in the limb, and some stiffness of the hand. There was considerable swelling about the shoulder-joint, which was tender on pressure, particularly at the anterior and posterior aspects. On the day of admission Mr. Syme applied the actual cautery freely over the anterior and posterior parts of the joint, the patient being under chloroform. From this time she lost the old pain entirely, or at least was uncertain whether that which she still felt was not altogether that of the burn; and though the pain of the burn was considerable till the sloughs separated, yet it was much less distressing than the old pain, for which it was substituted, so that she slept much better than before the application of the cautery. The slough came away on the 1st of April, on which day she had a slight return of the old pain near the wrist, but it has not occurred again, and she is now (4th of April) quite easy. The swelling about the shoulder has almost entirely disappeared, and there is little, if any, tenderness; the sores are granulating healthily.

April 14th.—Continues quite easy.

She was discharged on the 27th of April; I saw her about a month after and she still continued free from pain.

CASE 3.—Disease of Wrist-joint; Actual Cautery; Cure.—Janet Archibald, æt. 32, admitted November 2d, 1853. Rather a weakly subject. In October last she "took a shivering," without any particular exposure to cold, and a pricking pain came on in the left wrist, which increased for a time, and was accompanied with swelling. She applied poultices medicated with acetate of lead, and under their use a great improvement had taken place at the end of five weeks, when she got fresh cold in it, as she says, and it became excessively painful; the pain continued ever after till her admission, and although its extreme severity was then somewhat mitigated, yet it kept her awake a good deal at night; it was partly dull and heavy, and partly of a shooting character, and extended down through the hand and fingers. There was also an occasional tingling sensation in the fingers, and a sense of unnatural weight in the limb. A great degree of swelling existed about the wrist-joint, particularly on the dorsal aspect, and this part when manipulated gave a feeling very like that of fluctuation, so that her medical attendant had been desirous to open what he had supposed a collection of matter there.

Mr. Syme regarded the condition of the wrist as almost hopeless, but as he thought suppuration had not yet occurred, he determined to give the limb a chance with the actual cautery, which he accordingly applied on the dorsal aspect in two lines, crossing one another over the articulation. The pain and swelling both diminished greatly during the first four weeks after the cauterization; some aggravation of the symptoms then occurred for a time, but as the sore was still open, Mr. Syme thought it unnecessary to interfere further, and a gradual improvement afterwards took place, till at the time of her leaving the Infirmary (Feb. 14th, 1854) there was scarcely any swelling and very little pain.

I saw her again on the 10th of June, there was then no swelling whatever about the wrist, and no uneasiness except a painful feeling of weakness when she exerted it much.

CASE 4.—Disease between the Atlas and Axis; Actual Cautery applied with great benefit.—Thomas Smith, æt. 27, admitted June 20th, 1854. Generally enjoyed good health till eighteen months ago, when a stiffness of the neck came on without any assignable cause, with pain when he turned round his head on the pillow; the pain increased greatly, and deprived him altogether of sleep for seven weeks, during which time he lost three stone in weight. There was severe pain in the head as well as in the neck, aggravated to an extreme degree by either nodding or turning of the head, particularly the latter, which, indeed, he at last never did without turning the rest of the body also. He applied to numerous medical men in Birmingham, where he lives; and blister and caustic issues were repeatedly applied to the back of the neck, but never gave more than very slight

and very transient relief, and he says that from the commencement of his complaint, he never had one minute's freedom from pain, except during sleep, till he came here.

At this time he was, according to his own account, about as bad as he had been at all. His countenance wore a peculiar expression of mingled suffering and apprehension, as Mr. Syme expressed it. He complained of severe pain in the neck and head, aggravated by any sudden movement, so that there was a great constraint about all his actions. He always kept his head bolt upright, except when in bed, and could neither lie down nor get up without supporting his head with his hands; he never turned his head without the rest of the body, but gentle nodding was not very painful. There was great swelling of the upper part of the neck, and he could only open his mouth a little way; deglutition was extremely difficult, and a remarkable prominence of the bodies of the upper cervical vertebræ was to be felt in the pharynx.

On the day after his admission, Mr. Syme applied the actual cautery over the spinous processes of the upper cervical vertebræ; the man was not under chloroform, and said he hardly knew whether the pain was greater even at the moment, than what he had experienced from caustic issues, and immediately afterwards he told us that he did not feel the pain of the burn at all. Next day he found less pain in moving the head, and in two or three days his countenance assumed a cheerful aspect. A steady daily improvement has since taken place in his symptoms, and at the present time (July 15th) he has no pain whatever when he sits at rest, and can also use strong and active exertion without uneasiness, and no longer requires to support his head in lying down or rising; he can turn his head round pretty freely and look up to the ceiling, and it is only in sudden movements of the neck that he feels any pain at all. The swelling of the neck has greatly subsided, and he can open his jaws wide, and swallow with comparative facility. The sore on the neck is almost healed, and he talks of leaving the hospital in a few days as cured.

ART. 82.—*On the enlargement of articular extremities of bones in Chronic Rheumatic Arthritis.* By W. ADAMS, F.R.C.S., Assistant-Surgeon to the Royal Orthopædic Hospital, Demonstrator of Morbid Anatomy at St. Thomas's Hospital, &c.

(Pamphlet, 1854.)

This pamphlet is a reprint of a communication to the Pathological Society of London, published in the 3d vol. of the "Translations" of that society. The especial object of the author is to combat the theory propounded by Rokitansky, and generally received by pathologists, that the enlargement of the articular extremities of bones in the above-named affection, of which the alterations in form of the head of the femur are taken as the typical example, results from an inflammatory process of softening of the tissue of bone, swelling, rarefaction, expansion, and consecutive induration from osseous exudation within the tissue of the bone—osteoporosis succeeded by induration.*

Mr. W. Adams exhibited a series of preparations to the Pathological Society, which are now in the museum of St. Thomas's Hospital, and from them he drew the conclusion, that the increased size of the head of the femur, and also of the articular extremities of other bones, did not result from an inflammatory expansion of the osseous tissue, as stated by Rokitansky and other pathologists, but was produced by a growth of new bone external to the old, to the surface of which it afterwards became inseparably connected. The chief evidence in favor of this opinion consisted in the appearances observed in sections through the enlarged extremities.

The outline of the head of the bone was generally traceable in its normal direction, and indicated by the persistence, to a greater or less extent, of the thin shell of compact tissue, naturally limiting the head of the bone, and also of an imperfect layer of articular cartilage. External to this layer of cartilage, and

* Rokitansky's *Pathological Anatomy*, Sydenham Society translation, vol. iii. pp. 17, 173, and 200.

extending from the circumference towards the centre, was a mass of finely cancellous new bone, which produced the irregular shape and enlargement.

This new bone is generally of an irregular wedge-like form; its base rounded, projecting beyond and overhanging the edge of the articular cartilage, and its apex directed towards the centre of the head of the bone lying on its articular surface, and being itself covered by a layer of cartilage; so that the mass of new bone is situated between two layers of cartilage, one belonging normally to the head of the bone, the other covering the articular surface of the new bone. In one specimen the wedge-shaped portion of new bone measured an inch in length, and,—at its base,—more than a quarter of an inch in breadth; its apex corresponded to the centre of the articular cartilage, which at this point was somewhat thicker than natural, and had the appearance of being split into two layers by the advancing ossification; one layer passing over the articular surface of the new bone, and the other between the new and the old bone in its normal direction. In most sections the last-described layer was thicker than the former.

These appearances seemed also to warrant the conclusion that the new bone had been developed in the centre of the articular cartilage. In some instances ossification had increased equally in every direction, so that rounded osseous-like growths were formed; and, in others, it extended as a ring-like layer over the articular surface, thick and rounded at the circumference, narrowing to a point towards the centre of the head.

The evidence of these new superadded osseous growths being developed in articular cartilage was equally conclusive in the specimen of the disease as affecting knee-joint. Sections through the prominent nodules in the central portions of the cartilage on the condyles of the femur, showed these prominences to depend upon irregular hypertrophy of the cartilage, the hypertrophied portions generally containing a central point of ossification. The process here could be traced from its commencement. As ossification of these nodules advances, a junction with the articular surface of the new bone is soon effected, and,—the thin limiting layer of compact bone becoming absorbed,—the appearance on section is that of a continuous mass of cancellated structure. The gradual disappearance of the articular cartilage between the central point of ossification and the articular surface of the bone may be traced in different sections. In consequence of this junction, which seems invariably to occur, though at different periods, these growths have uniformly, so far as Mr. Adam's observations have extended, a broad base, and therefore they never become pedunculated, or form loose cartilages.

These new superadded osseous growths are at once distinguished, by their situation either at the margin or in the centre of the articular cartilage, and, by their broad bases, from the pedunculated osseous growths above adverted to; which, either solitary or in clusters, are so frequently found attached to the synovial membrane near the borders of the articular cartilage, on the neck of the bone, in the notch between the condyles of the femur, and in all parts removed from direct pressure.

The formation of these pedunculated osseous growths, which were unusually numerous in the knee-joint commented upon, and in which one had become detached, forming a loose cartilage, could be satisfactorily demonstrated to commence in the synovial fringes or glands first described by Mr. Rainey, and referred to by him in the 2d vol. of the "Pathological Transactions," page 110, in connection with the microscopical examination of some loose cartilages removed by Mr. Solly from the elbow-joint, which Mr. Rainey inferred had probably been formed in the synovial fringes.

The microscopical characters of the different layers of cartilage, and of the new bone in the enlarged head of the femur, are then minutely detailed, and the author remarks:—

From these observations it appears that the process of enlargement of the articular extremities of bones affected with chronic rheumatic arthritis consists:—

1st. In hypertrophy of the articular cartilage, generally occurring at the circumferential margin, but occasionally taking place towards the central parts of the articular surfaces. The new growth of cartilage takes place principally, if not entirely, near to the articular surface. The propriety of the term, hypertrophy,

may perhaps be questioned, since the new tissue is not precisely identical with perfectly formed articular cartilage; and Rokitsansky, Henle, and other observers state, that articular cartilage is not liable to hypertrophy; the difference, however, between the newly formed and original cartilage was, in some parts, extremely slight, for, near to the osseous border, in the new cartilage, the intercellular matrix was often free from any fibrous tissue, and in some places the nuclei appeared to be in process of aggregation. Generally, a fibrillated character of the matrix, and the scattered, solitary, or imperfectly grouped arrangement of the nuclei, distinguished it from normal articular cartilage.

2dly. In the development of true osseous tissue in the hypertrophied cartilage, ossification commencing either in the newly formed cartilage, or at the junction of the new with the old cartilage. Ossification proceeds more rapidly in the newly formed, and forming cartilage, for its growth is probably simultaneous with the advancing ossification, than in the old articular cartilage; so that considerable masses of new bone are formed, altering the configuration of the articular extremities, whilst a layer of articular cartilage remains in its normal position. More slowly, but as perfectly, ossification takes place in this imbedded layer of articular cartilage. The process resembles the normal process of ossification in temporary cartilage in the intercellular matrix being the primary seat of earthy impregnation, and the enlargement of the cells in the immediate vicinity of the bone. The chief point of difference seems to be the absence of any definite arrangement of the cells near the line of advancing ossification, and the resemblance in the cells to those usually called compound cells.

The precise part played by the cells in the ossifying process was not more determinable than in the normal process of ossification. Generally, they appeared to be passive until included within the advancing line of ossification, when the large compound cells of the embedded articular cartilage seemed to form areolæ or spaces, and the nuclei in the new cartilage gradually to form perfect lacunæ with canaliculi; but in the embedded articular cartilage, there were no scattered nuclei from which lacunæ could be formed, yet they existed in the bone developed in this situation. With respect to ossification of articular cartilage, Henle, Sharpey, and other physiologists especially refer to an absence of a tendency to ossify as one of the characteristics of articular cartilage. Sharpey says, "the matrix of articular cartilage rarely, or perhaps never, becomes pervaded by fibres, nor is it prone to ossify."*

The view here taken of the formation of these osseous growths, not only explains the mode in which the articular extremities of bones become enlarged in chronic rheumatic arthritis, but it satisfactorily proves the "expansion theory" to be inapplicable to a large class of cases which have generally been adduced, especially by Rokitsansky, in illustration of it. Mr. Adams indeed entertains considerable doubt of the soundness of this theory as applied to the inflammatory process in bone generally, the enlargement of the shafts of the long bones, &c.

(E) CONCERNING ANÆSTHETICS.

ART. 83.—*On Cold as an Anæsthetic.*

By (1) Dr. JAMES ARNOTT; and (2) others.

(*Medical Times and Gazette*, July 1, Aug. 1, and Sept. 30, 1854.)

1. Arguing from the frequency of deaths from chloroform, Dr. James Arnott considers it imperatively necessary to substitute a safer anæsthetic, and he again urges the claims of cold to preference. In the present instance his object is to institute a comparison between chloroform and cold as anæsthetics. He proceeds:—

"It is commonly supposed that the application of benumbing cold must be a difficult and troublesome proceeding; much more so, in both respects, than the administration of chloroform. The very contrary is the truth. Whether the cold is applied by keeping in contact with the part, for a few seconds, a refrigerating mixture of ice and salt contained in a gauze bag or a thin metallic vessel, or by

* Quain's Anatomy, 5th edit., p. 128.

touching it with a thick piece of copper that has been dipped in such a mixture, nothing can be easier, and it is impossible to fail. Different from chloroform, the anæsthetic effect is complete within a minute; and, as it has no unpleasant consequences, the surgeon is released from those protracted attentions which he is so often called upon to give in allaying the nervous symptoms that frequently follow the administration of chloroform. He requires no assistant; and, as the anæsthetic brings no new danger of its own, his mind is undisturbed during the operation, from the anxiety which he would suffer from chloroform on this account.

"The expense of either plan is so trifling, that it does not deserve mention with respect to private practice; but, with reference to hospitals, where the strictest economy is required, it may be worth while to state, that cold does not cost a twentieth part of the price of chloroform. In using a frigorific mixture for remedial purposes in dispensary practice, I have made two pennyworth of the materials answer for several cases in succession. Mr. Ferguson, of Giltspur Street, has had benumbing vessels elegantly made of silver, but, however well suited for private practice these may be, a rougher apparatus will answer. On one occasion, in employing congelation in phlebitis, I borrowed for the purpose the net which confined the hair of the attendant nurse; and the principal ingredient cost as little as the instrument which contained it, for, there being a snow-storm at the time, it was gathered from the door-step.

"The perfect safety from cold, and the anæsthesia from chloroform in the deepest operations, are the great respective advantages of these agents. Of the thousands of times intense cold has been used, not once has it been followed by any more untoward event than a slight cutaneous irritation. If the skin is merely benumbed, no redness follows the application; if congelation of the adipose matter under the skin is caused, a redness comes on, which may continue for a day or two. But, as explained elsewhere, this is the very contrary of inflammation. Instead of being a symptom of inflammation, the redness shows that a condensation of the part exists, rendering inflammation impossible. And in this safety produced by congelation, there is an advantage not inferior in importance to the insensibility. For, to the erysipelas and phlebitis following surgical operations, the greater number of deaths occasioned by them is to be attributed.

"The anæsthesia from chloroform in deep operations can only be called perfect under the supposition, still contested, that the unconsciousness of the patient afterwards, that he has submitted to an operation, proceeds from having felt no pain, and not merely from having forgotten it. To judge from his struggles and cries, the latter would be the conclusion.

"The anæsthesia produced by chloroform is by no means so certain as the anæsthesia produced by cold, because, in the latter case, there is no unconsciousness. But, in deep operations, it is only the incision of the skin, which is very painful. The most eminent orthopædic practitioner of the day states, in a letter to the writer, that in the operations he is conversant with, the only source of pain is the incision of the skin, and perhaps no surgeon has had so good an opportunity of forming an opinion on this point. But all will agree, that if the sensibility of the skin were suspended, there would be very little suffering from the cutting of the deeper parts. So little, indeed, that it becomes a question whether life should be endangered by suspending it. The pain attendant on tightening the ligatures of arteries could be easily obviated by the momentary previous application of a congealing copper ball.

"Chloroform, by causing unconsciousness, prevents the patient from assisting the surgeon in his operation, and from apprising him of mistakes that may happen in its performance. The public has just been reading, with horror, the account of attempts made to drag a stone from an unopened bladder by a forceps, introduced through the wound, and grasping both stone and bladder. But for the insensibility produced by chloroform, the screams of the unfortunate child would at once have indicated the error, and the system, perhaps, is more to be blamed than the surgeon.

"In the act of administration, and afterwards, certain inconveniences attend both measures. Chloroform, besides producing unconsciousness, causes a sensation of choking, and is often succeeded by headache, sickness and prostration.

Cold applied only to the degree of benumbing (which may often be sufficient), causes no unpleasant sensation; but when congelation is produced, there is a sense of pricking, like that caused by mustard, both at the time, and after the return of the circulation. This subsequent smarting may be entirely prevented, by a moderate application of cold; and that which first takes place may be lessened, if thought worth while, by a little management.

“In recapitulating the subject, we may say, that although in deep operations, the insensibility produced by chloroform may be greater than that produced by cold (unless this were applied in the successive stages of the incision), in all superficial operations, which constitute the immense majority, cold is superior to chloroform in the circumstances of safety, ease of application or the saving of time and trouble, certainty of producing anæsthesia, and lastly, in the power it possesses of preventing subsequent inflammation. Surely, a conscientious and humane surgeon will not allow the prejudice against novelty or innovation to outweigh so decided a superiority. Anæsthesia will, no doubt, henceforth be a required element of every surgical operation, but chloroform, fortunately, is not the only mode of producing it.”

2. On the other hand, cold is not always so effectual a substitute for chloroform as Dr. Arnott would have us imagine, and some cases in point are reported in the *London Practice of Medicine and Surgery*.

In one instance the reporter writes:—

In several cases recently operated upon at St. Bartholomew's Hospital, trial was made as to the efficiency of congelation in preventing the pain of the incisions. Whether from a too timorous use of the means, or some other cause, the success was not so complete as could have been desired, since the patients evidently felt. Mr. Paget, however, has informed us, that in private he has, on several occasions, tried the plan, and found it to answer fully the intention of the proposer. The operations were for the removal of subcutaneous tumors, in which the main point was, that the patient should not feel the incision through the skin. In one case Mr. Paget excised a fatty tumor from the shoulder of a lady, the skin having previously been frozen; and although the incision required was four inches long, yet no pain was complained of. In proof that congelation does not hinder the subsequent healing, it may be mentioned, that in that instance a considerable part of the wound united by the first intention, and the rest of it soon closed. The mixture used was about equal parts of pounded ice and salt, enclosed in a coarse muslin bag. This was by degrees applied to the surface to be operated on, and, as the patient got used to the sensation, allowed to remain on it. The process occupied from four to six minutes, and caused no pain. Operators who make use of this plan, must recollect that the skin does not cut so crisp as natural when frozen, but like tough soap, requiring a little modification in the handling of the scalpel. The apparatus recommended by Dr. Arnott, a gauze bag, a large brass ball, a spoon, &c., is now kept by the instrument-makers; but it is very simple and may easily be extemporised without cost.

On another occasion the same reporter notices two other cases. In the first, the patient was a woman, under the care of Mr. Walton, in St. Mary's Hospital, from whom it was necessary to remove a fatty tumor from the abdominal wall. The tumor was subcutaneous, and felt quite as loose as such tumors generally are; it had the size of an adult fist, somewhat flattened. Nearly an hour was wasted in unsuccessful attempts to freeze the skin, but as this was due, of course, to mistakes in manipulation, it should not be charged against the process. At length, a mixture, properly made, was applied, and in about four minutes the requisite area of skin was frozen, as white and hard as could be wished. Without the loss of a moment's time, Mr. Walton made a deep incision through the whole required extent of skin into the tumor. This gave no pain. The tumor was seized at once, and forcible enucleation attempted. It could not, however, be extracted so easily as had been expected, and adhesions, both to the skin and to the deeper parts, required to be divided by the knife. At one part, where it appeared to have been pressed upon by the edge of the woman's stays, the adhesions between the tumor and skin were very close, and a careful division was needed. The operation lasted perhaps altogether

about four minutes, and during the whole of that time, excepting the first cut in the skin, the patient was making loud cries and protestations of pain. It should be stated, that she was a remarkably quiet person, and one who did not complain for little.

In the second case, the patient was a man of middle age, under the care of Mr. Critchett in the London Hospital. The tumor was a fatty one, about the size of a large fist, and situated beneath the skin in the upper part of the front of the thigh. The freezing of the skin was very complete, nearly five minutes had been occupied in the process, and the incision into it appeared to be quite painless. The tumor had, however, rather intimate adhesions, more especially to the integuments; and the man complained much at almost every touch of the knife, excepting the first.

We had witnessed before the above several cases of partial failure in the case of cold, but were inclined to attribute them somewhat to timorousness in its use; in these, however, it was fairly and sufficiently used. Their evidence seems clear to the effect, that, unless the tumor be so loose, and almost instantaneous enucleation can be performed, a painless operation must not be expected. The anæsthesia does not extend at all deeper than the skin; and even in its recovery of sensibility is so rapid during the manipulations, that the division of adhesions to its under surface will not be painless unless made without a minute's delay. There are, doubtless, a large number of cases in which, despite these drawbacks, anæsthesia by cold may be made very useful; but the surgeon must always be careful not to promise to his patient a painless operation. As it regards the excision of tumors, it will probably, in a few instances, be completely successful, and in many others sufficiently so to afford a good pretext for avoiding the use of chloroform. It is, perhaps, adapted best of all for use in the very painful operations which it is so frequently necessary to perform on the fingers and toes. Here it can be applied from several sides at once, and a more complete and less transitory degree of anæsthesia produced.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

ART. 84.—*On the treatment of Ulcers of the Cornea.*

By MR. CRITCHETT, Surgeon to the Royal London Ophthalmic Hospital.

(*The Lancet*, July 15, 1854.)

The subjoined passage, from a course of lectures on Diseases of the Eye delivered at the London Hospital, sets forth very clearly the true principles of treatment in this often mismanaged, and where mismanaged, very serious affection. Mr. Critchett says —

In all cases in which you have ascertained with certainty the existence of an ulcer of the cornea, it is a good precaution to impress the fact on the mind of the patient or some friend, and to remind them that under the most favorable circumstances and the most judicious treatment, a permanent opacity must be expected; otherwise, as the cure is accomplishing, they become dissatisfied, and the blemish, which is to the surgeon the proof of success, may be attributed to inefficient or improper treatment. If, however, the partial eclipse be predicted credit is rather gained than lost when the prediction is fulfilled. During the first stage, mentioned in the last lecture, that in which the ulcer is in process of formation, there is usually an excess of local action in the conjunctival membrane, and the usual symptoms of acute ophthalmia. Soothing applications, such as poppy fomentation or warm water, together with the local abstraction of blood by means of a few leeches to the temples, followed up by counter-irritation behind the ear, are the most likely means of arresting the ulcerative process, at the same time, it may be necessary to sustain the general power, and counteract by constitutional treatment any abnormal state of system that may exist. Thus, in children, struma is often found in league with corneal ulceration. At puberty the men-

strual function may be at fault; prolonged lactation is a fertile and very embarrassing cause; and, later in life, a feeble, shattered, and physically depraved state of system, the result of constant and prolonged intemperance, gives rise to ulceration of the cornea. These various conditions must be combated with such means as we have; and we must ever bear in mind, if we would be successful practitioners, that the most active and destructive inflammatory and ulcerative processes are compatible with, and even dependent upon, a very feeble state of system, which may require tonics, stimuli, and a very liberal dietary for their cure. This point I have already insisted upon, but I hold it to be of such importance, and so very imperfectly recognized by the profession generally, that I take every available opportunity of urging it. I cannot but rejoice to find this view ably developed and abundantly illustrated in the lectures delivered last summer by Mr. Skey at the College of Surgeons. I very early imbibed this opinion from my late teacher, Mr. Tyrrell; subsequent experience has given me almost daily evidence of its truth, and I cannot but hope that the eloquent appeal that has been made from so high an authority, and to such an audience, will result in the establishment of so important, so vital a principle.

In cases of acute and spreading ulcers, where penetration of the cornea is threatened, it becomes a matter of extreme importance to determine whether there is any means of arresting the progress of the ulceration. However judiciously the constitutional treatment may be conducted, there is every fear that penetration may occur before a favorable reaction has time to take place; it, therefore, is an anxious question, whether we can, by any local application, bring about an altered action in the part, and avert the impending danger. It is in such cases as these that I have found the nitrate of silver, in substance, of great value; it should be finely pointed, and carefully limited as much as possible to the ulcer itself; in order to effect this object, glycerine should be dropped into the eye previously, so as to protect the remainder of the surface from the action of the caustic. It seldom requires repeating more than once or twice, and it will frequently be found that the ulcer will begin to fill up and heal from that time. In other cases, it must be admitted that the effect is less favorable—that it is productive of considerable pain, of increased inflammatory action, and of infiltration of matter between the corneal layers. This I have chiefly observed amongst the old and feeble; but the happy result that occurs in numerous cases, and the extreme urgency and threatening aspect of the symptoms, fully justify and even suggest the plan I am now advocating.

I have usually observed that these ulcers occupy a considerable area; and if we are unable to arrest their progress, and penetration occurs, the iris immediately falls forward, in contact with the opening, which gradually enlarging, allows of its protrusion, and thus “prolapsus iridis” occurs; the natural resisting power and elasticity of the globe is weakened, the prolapse increases, the anterior surface of the eye bulges forward and staphyloma occurs. It is very desirable, if possible, to obviate this latter result; and here, again, it has been suggested to apply the nitrate of silver, in substance, to the protruded part. The objection to this plan is, that it often causes severe pain, and is by no means uniformly successful, and therefore I cannot recommend it. I much prefer either puncturing the prolapse with a needle, which often causes it to contract and shrivel away, and thus to close up the corneal opening; or in case that fail, and the protrusion still increases, to remove it entirely. Under the most favorable circumstances, when disease has produced such results, the integrity of the organ is seriously compromised; but it is quite possible that sufficient space may be preserved for the formation of an artificial pupil, and under any circumstances, it is most desirable to prevent the occurrence of a large staphylomatous protrusion.

In the glassy ulcer, there is very little to combat locally, the conjunctiva is very slightly injected, there is no surrounding opacity in the cornea, and no indication of any morbid action in the part, except the loss of substance. Here we have evidently an error of nutrition, and our chief efforts must be directed towards the constitutional condition of the patient. We must endeavor to correct, as far as possible, the baneful influences to which such patients have usually been exposed, in the shape of impure air, small, ill-ventilated abodes, insuffi-

oient and unwholesome food : giving, at the same time, such medicines as are calculated to assist in sustaining the general powers of the patient. This object it is often very difficult to effect. We suggest changes which poverty and ignorance are either unable or indisposed to adopt, and the debility resulting from a protracted exposure to these numerous sources of disease requires a very complete change and a very long course of sanitary and medicinal treatment for its removal ; hence, one of the remarkable features in the transparent ulcer is the very lengthened period during which it will remain stationary, and unaltered in its size and other characters. The local treatment is comparatively unimportant, and should be of a very mild character. It has been suggested that the salts of lead, in solution, should not be employed in ulcers of the cornea, on account of the tendency to a permanent deposit upon the surface. I have observed this on more than one occasion, and it is quite in harmony with what occurs when the acetate of lead is powdered over granular lids ; and as there is no counteracting advantage to be gained by the use of lead lotion, it is better to abstain from it altogether where ulceration exists. Some cooling, unirritating collyrium, such as rose water or elder-flower water, or a weak solution of vinegar, is the best local application. Where the case is very protracted, and the surface of the ulcer becomes irritable, it is sometimes advantageous to touch the surface lightly with the fine point of the nitrate of silver. I much prefer this to the employment of a solution of lunar caustic, which irritates the conjunctiva, without acting so directly upon the ulcer, and often seriously aggravates the case. It is particularly important, in the glassy ulcer, to apprise the patient or his friends that an opacity of the cornea must be expected, otherwise the symptoms are so mild, and the evidence of breach of surface so faintly appreciable to uneducated vision, that discredit may easily attach to the surgeon who is in attendance, and, as the ulcer begins to fill up, an impression will be gained that the case is retrograding, at the very time it is drawing to an auspicious close.

In cases of ulcer with a vascular membrane and organized deposit upon its surface, which is usually somewhat raised above the level of the rest of the cornea, and in which red vessels may be seen travelling to supply it, the treatment is difficult. We have here new and organized deposit to combat with ; diseased action seems to have established itself, and (if I may use the expression) to have taken up its abode in the part, and this very much increases its power of resisting all remedial means, and its constant proneness to relapse or return after apparent subsidence. I have had an opportunity of observing several of these cases at the Ophthalmic Hospital ; they usually apply after this condition has existed for a considerable time, and when a variety of remedial means have been exhausted upon them. They generally occur in young females about the age of puberty, or a little anterior to this, although they are also found in young strumous children. I believe them to be due, in the first instance, to a disturbed, altered, or arrested function of some important organ in a feeble or strumous diathesis, aggravated by an active depleting plan of treatment, or by the injudicious and protracted use of strong local stimuli, particularly the nitrate of silver. The obvious inference is, that every available means must be taken to bring about and maintain the normal function of any organ that may be at fault. This is particularly necessary as regards menstruation ; at the same time I may add that I have frequently found the local disease, when thus established and organized, continuing in full force long after the constitutional vice to which it owed its origin has passed away. As regards local treatment, I have usually found stimuli of all kinds injurious ; soothing applications are the best ; sometimes one or two leeches, applied about every other day for a week or two, are of use, particularly where the vessels are rather numerous and full, and the inflammation is in a sub-acute stage ; but that which has appeared to me to be of the most marked and essential service in this form of disease are *issues* inserted into the temple, and kept there for many months. I usually employ a small pea for this purpose, which must be changed daily. I am aware that some high authorities, and Mr. Tyrrell amongst others, sweepingly condemn the use of issues in all cases of eye disease, on the grounds of the severity of the treatment, its general mutility, and the subsequent deformity. I admit that

these are objections in slight and transient cases; but they lose their force when we are considering a severe, obstinate, protracted disease, liable to relapse, detrimental to sight, and effectually preventing all use of the organ while it remains unsubdued. It is for such cases that I would reserve the employment of issues. A morbid action has become established in the eye, and requires a prolonged discharge in its immediate vicinity gradually to divert it from its original seat, and to weaken the tendency to relapse—at least, such is the explanation I am disposed to offer; but, whether correct or not, I entertain no doubt whatever of the power and value of the remedy. I have succeeded in completely and permanently curing several cases of this kind by the prolonged use of issues when they had baffled all other means for many months and even years, and when the constant irritation and necessary confinement were casting a gloom upon what would otherwise be the brightest period of life. It seems to me, that, to obtain emancipation from such a condition, a small scar on the temple is but a slight penalty, and one most freely paid by the sufferer.

When the cicatrizing process is going on favorably, the only practical point we have to consider has reference to the opacity remaining in the cornea; this is often a cause of great anxiety on the part of the patient, on account both of the deformity and the dimness of vision resulting from it, and its removal is frequently sought. I believe time will effect much in this respect, as we find, in other scars, a gradual contractile process goes on for a considerable time, and the surrounding deposit entirely passes away, so that a very decided diminution of the opacity ultimately takes place. Much confidence is expressed by some in the action of various local stimuli in promoting the absorption of such opacities; thus, solutions of the nitrate of silver, of zinc, of iodide of potash, calomel, and various other stimuli, are each of them in high favor with different observers. It is extremely difficult to estimate the value, either positive or relative, of any of these means, when we know the natural tendency is towards a gradual absorbent action. It is impossible to avoid the conclusion that, whilst it may be the result of our application, it may also be irrespective of, or it may even be in spite of, the means employed; and, I must confess to some degree of scepticism in regard to the efficacy of any of these stimuli in removing opacities; at the same time I am quite aware that in practice it is often necessary to employ something of the kind. I generally use a solution of the iodide of potash—five grains to an ounce of distilled water—dropped in three times a day. It does not cause pain, and its action is gently stimulating and absorbent. I think the nitrate of silver objectionable, because I have seen several cases in which its prolonged use has caused a permanent stain in the conjunctiva. If we do employ it, care must be taken not to continue it for any lengthened period; certainly not above five or six weeks at a time.

ART. 85.—*Of the advantages of Local Stimuli, and particularly Nitrate of Silver, in Ophthalmia.* By Mr. CRITCHETT, Surgeon to the Royal London Ophthalmic Hospital.

(*The Lancet*, May 13 and 27, 1854.)

Mr. Critchett entertains the highest opinion of the benefits arising from this kind of treatment in catarrhal and purulent ophthalmia.

Of *catarrhal ophthalmia* he says: "If this affection be correctly diagnosed and attacked early, it may be cured rapidly and almost invariably by local stimuli; and of these, by far the best, according to my experience, is a weak solution of the nitrate of silver, in strength about two grains to the ounce, of distilled water, gradually increased to six grains. If applied in the early stage, however severe and well-marked the disease may be, it will generally subside in a few days. The time required for cure being, according to my observation, pretty accurately measured by the interval between the first development of the disease, and the commencement of the remedy. As, for example, if the treatment be commenced on the third day, it will be well by the sixth day, and so on. I know of nothing that more thoroughly deserves the name of a specific than this. It should be carefully dropped in the eye with a camel's-hair brush or a quill, and may be repeated every three or four hours in severe cases. It causes slight

smarting at first, which rapidly subsides, and then the patient feels great relief. The more completely the case is adapted for this treatment, the less pain does it occasion, and the more speedily does it pass off. It is in the epidemic form that the beneficial effect is the most rapid and clearly marked. If there be any unusual complication, as one or more pustules or aphtha, or if there be much constitutional disturbance, the effect is less decided and satisfactory, and it even sometimes fails, and must be discontinued, some astringent, as a solution of alum, being substituted. Some recommend that the caustic should be applied in a much less diluted form. Thus, Mr Guthrie is, I believe, in the habit of using a strong ointment, containing ten grains of the nitrate of silver to a drachm of lard. As I usually succeed with the milder solution, I cannot speak from personal experience respecting this ointment, but I have no doubt it answers perfectly well, the important point being rather, the suitability of the case than the strength of the stimulus.

"I feel that the profession is much indebted to Mr. Guthrie for bringing prominently before them the value of nitrate of silver in eye disease; at the same time it is to be regretted that this distinguished surgeon, whilst probably instinctively selecting the suitable forms for its application in his own practice, has not very clearly defined the cases to which it should be limited. For we must ever remember that, like other powerful agents, it is equally efficient for good or for evil, whilst it is a remedy of sovereign value in suitable cases, it is most injurious when misapplied, and I have frequently known it to set up a specific inflammation, a sort of nitrate of silver disease, that is most intractable and distressing. The rule I lay down is this, *that in genuine catarrhal disease, it is a specific, and that it is useful in all cases in which the discharge from the conjunctival membrane is of a muco-purulent or purulent character, provided the disease is limited to that membrane, and has not extended to the cornea or other tissues of the eye.* I find that relief ought very speedily to follow the application, and that the pain is slight, if therefore this be not the case, if the symptoms are decidedly aggravated, and the pain increased after a few applications, it is better not to persevere. The case has probably been mistaken, and is unsuited, or some complication has been overlooked; and we must always remember that in using this remedy, if we are not doing good we are doing harm.

"I have dwelt thus minutely, and at some length, upon this plan of treatment, because I believe that there exists in the minds of most medical men, and also in the pages of most ophthalmic works, very vague ideas respecting the use of the nitrate of silver in diseases of the eye, both as regards its value and the cases to which it is applicable. One of the most practical works we have on eye disease—viz, that by the late Mr Tyrrell,—condemns the use of the nitrate of silver, *in toto*; others seem almost equally indiscriminate in its commendation; it is therefore not to be wondered at that those who have not extensive opportunities of bringing these diverse and contradictory views to the test of experience should acquire confused and erroneous opinions on this truly important practical point.

"In advocating the use of a solution of the nitrate of silver in catarrhal ophthalmia, I do not wish to limit the treatment to this particular remedy; I am merely desirous of setting forth the stimulating plan as contrasted with the anti-phlogistic, which is strongly advocated by some high authorities, and which I feel satisfied will not control these specific inflammations of mucous membranes. Other stimuli, particularly alum and the sulphate of copper in substance, may be employed with advantage, but I think, as a general rule, the nitrate of silver is the best. In fact, I have found it too uniformly successful, where the cases have been properly selected, to allow me to doubt its specific power over the disease. The only treatment I adopt in addition to this is, to smear the eyelids at night with spermaceti ointment, to prevent agglutination in the morning. No medicine of any kind is usually required, and the ordinary diet may be continued throughout the treatment of the case."

Mr Cruikshank speaks in the same way of purulent ophthalmia:—

"The treatment of these cases is merely local; it is very simple, and the result highly satisfactory. All that is required is the frequent application of some mild astringent or caustic lotion to the surface of the conjunctiva. At the Oph-

ththalmic Hospital we use a solution of alum, from five to ten grains to the ounce; but a weak solution of nitrate of silver answers equally well, and I think acts more rapidly. The essential point is, that whatever is used is well applied to the surface of the membrane. A frequent source of failure is to be traced to the neglect of this measure. The remedy has been judiciously chosen, but has failed for want of being properly applied. If a lotion is used, it should be frequently injected with a syringe between the lids, so as to wash away the discharge, and get well over the surface of the membrane; if drops are used, the eye should be first carefully cleansed. This plan of treatment, when properly carried out, is almost uniformly successful. Out of many hundred cases that I have seen, I can scarcely recall a single instance where sight has been lost, if the treatment has been commenced sufficiently early in the disease.

“Often as this plan of treatment has been urged, and unanimously as it has been agreed upon by ophthalmic surgeons, simple as it is in its application, and certain in its results, yet painful experience proves that it constantly requires to be reiterated with increased emphasis. It is not unfrequently our painful duty to witness cases of this kind where sight is damaged and even destroyed for lack of a little practical knowledge of this subject on the part of some of my professional brethren. If the despairing aspect and piteous cry of but one poor mother upon whose mind the sad truth suddenly breaks in that her child is hopelessly blind, could image itself to the sight and echo in the ears of those members of our profession, it surely would arouse attention to the importance of devoting a few thoughtful hours and some anxious care to this disease. So strongly have I been impressed upon this subject when I have had a case brought to me hopelessly blind, and have found that it has been under inefficient medical treatment, that I have felt that if it were permitted me to whisper but one short sentence in the ear of every member of our profession that should contain the essence of the greatest good to humanity with which I am acquainted, the one I would select in preference to all others would be—“*Local stimuli should be applied early, often, and thoroughly to the conjunctival surface in purulent ophthalmia of infants.*”

ART. 86.—*A rare form of Pustular Ophthalmia.* By Mr. CRITCHETT.

(*The Lancet*, May 13, 1854.)

“There is one modification of this disease (pustular ophthalmia),” writes Mr. Critchett, “which I have observed, but which has not been described in ophthalmic works. A patch of red vessels is seen on the outer part of the eye near the cornea; it is elevated, of a deep-red color, and rather large; it seems to have no tendency to form pustule, vesicle, or ulcer; it is apparently situated in the sub-conjunctival tissue, where a distinct tuft of capillary vessels, organizing a fibrinous deposit may be seen. The conjunctival vessels over it are also enlarged; it does not involve contiguous tissues, and produces but little disturbance to the eye; it is rather rare: it occurs between the age of thirty and forty, and seems to depend upon an asthenic condition of system. I have met with a few well-marked examples of this disease. I have found it very persistent and disobedient to treatment, and it is important to distinguish it from the more common forms, when giving an opinion as to its probable duration.”

ART. 87.—*Is Belladonna useful in Iritis?*

By Mr. CRITCHETT, Surgeon to the Royal London Ophthalmic Hospital.

(*The Lancet*, Sept. 9, 1854.)

Authorities are at variance as to the propriety of using belladonna with the view of dilating the pupil. It is contended, on the one hand, that if the pupil is allowed to become very small, that it forms adhesions, is permanently contracted, and the capsule of the lens is rendered dull and cloudy; but that if the pupil is kept large, even if the capsule is implicated, some clear space for vision usually remains. Those, on the other hand, who are opposed to the use of bel-

belladonna, say, that if the iris is implicated the pain and irritation are much increased by the dragging effect of this drug, and that if adhesions have formed it does not enlarge the pupil, and therefore that the motive for its use is not accomplished, whilst positive mischief is occasioned. There is, doubtless, much truth in the argument on both sides. In the early stage, when the iris is but slightly affected, it is useful to enlarge the pupil, and when the disease is subsiding the same effect may be produced with advantage; but during the active and fully developed stages of the disease, when the iris is thoroughly involved, belladonna often gives great pain, and does not influence the size of the pupil.

ART. 88.—Report of thirty-two cases in which "Abrasion of the Cornea" was practised. By M. SZOKALSKI.

(*Révue Méd.-Chir. de Paris*, Dec., 1854.)

This operation is generally very simple, and anæsthesia is not necessary, except in children and in very sensitive adults. The patient is placed in a sitting posture with his head against a wall, or on his back with his head resting on a cushion. Then, having separated the eyelids by the instrument of Kelly-Snowden, and fixed the eyeball by slight pressure with a finger, the opaque portion of the cornea is to be scratched with the edge of a cornea-knife, just as an ink-blot on paper might be scratched. This operation has to be repeated several times, and in the end the cornea becomes transparent, partly by the mechanical removal of the opaque portion, and partly by the increased activity of the process of absorption which is brought about by the operation.

Of 32 cases treated in this manner, Dr. Szokalski reports 15 as cured; 8 as partially cured; 5 as receiving neither good nor harm; and 4 as being materially damaged by it.

Of the 15 cases, which were successful, the opacity was cloudy, superficial, and having a granular appearance when the eye was looked upon from the side, in 8; it extended somewhat into the substance of the cornea in 4, and still more deeply into that substance in 3.

Of the 8 cases, in which the success was partial, the opacity was profound, and partly composed of old cicatrices.

Of the 5 cases, in which the operation did neither good nor harm, the opacity was slight, and the condition of the eye seemed favorable, and it was not easy to account for the failure of the operation.

When the operation did harm, the mischief was generally in the interior of the eye, the inflammation beginning, not in the conjunctiva or cornea, but in the iris and anterior chamber, and once developed, running rapidly on to evacuation of the humors. Such mischief was more likely to happen the nearer the part operated on was to the edge of the sclerotica.

M. Szokalski lays down two rules, which are these:—

1. To operate in several consecutive sittings, and very circumspectly at first.
2. And never to operate too near to the edge of the cornea.

These results deserve very great attention, for if they are far less favorable than is here represented, they are more than sufficient to justify the performance of the operation, and that not only in the cases where sight is altogether lost from opacity of the cornea.

ART. 89.—On Artificial Cornea. By Dr. NUSSBAUM.

(*Siebold and Kölliker's Zeitschr. für Wissenschaftl. Zoologie*, Dec., 1853; and *American Quar. Jour. of Med. Science*, July, 1854.)

In March last, Dr. Burnett read a paper before the "Boston Society of Medical Improvement" on Dr. Nussbaum's proposal for introducing a glass cornea in those cases where there is more or less blindness from opacity of the cornea. When the paper was read Dr. Nussbaum had not operated upon man, but since this time he has operated in one instance, and without success. The proposal is to be the revival of an operative procedure which had become obsolete.

Dr. Nussbaum proposes this artificial cornea as a substitute for transplantation

of the cornea. After alluding to the many contingencies of failure attending the bold practice of transplantation of the cornea, Dr. Nussbaum says he was led to make experiments relative to what substances would be least offensive as foreign bodies in the healthy tissues, in view of using such for an artificial cornea. After experiments upon his own body, he found that, of many solid substances, glass produced the least irritation, and in some instances scarce any at all. With this fact obtained, he formed a circular cornea of glass, perforated by a hole two-thirds its width. This he introduced into the eyes of dogs, having previously removed a corresponding portion of the cornea. But it was attended with no success: for, aside from the extreme difficulty of removing a portion of the cornea *exactly* the size of the artificial body introduced, there was much disturbance following the introduction of so large a body in so delicate a tissue, such as suppuration, &c., with a loss of the eye in the end.

Thus foiled, he says, it occurred to him that an orifice, of the size of a pin-hole, is sufficient to admit a good image of an object, if the eye is placed directly near it; as, for instance, in looking through a small hole in a piece of pasteboard. With this hint, he made a new trial, forming the artificial cornea after a new model, and of a much smaller size. Its general form was much like that of a shirt-stud, there being a main-shaft with a rim on each end; but, instead of being round or circular, both shaft and rims were compressed laterally, being, therefore, of an oblong instead of a circular form. The artificial cornea, thus formed and shaped, was not much larger than the head of a large pin, and perforated by a hole of an oblong shape and of a correspondingly minute size. With this new model of a cornea, he proceeded to operate upon the eyes of some puppies. Instead of making a circular incision, as in the first experiments, a simple slit only was here required. In this slit of the cornea, the new body was introduced exactly as a shirt-stud is put in a shirt.

The following is his description of the operation:—

“For the operation are required, a cataract knife, a pair of small anatomical forceps, and, for the emergency, Cooper’s scissors. In the absence of a good assistant, there is needed a lid-holder of Kelly-Snowden, and when the eye is very restless, a sharp hook. For the patient, I choose the reclining, and for the operator the sitting posture. The pupil being dilated by a strong solution of the extract of belladonna, I narcotize the eye until the bulb remains quiet; then, opening the lids by means of a lid-holder, I place the cataract-knife, which I hold as a pen, at right angles on the surface of the cornea, at about one-eighth of an inch from its external border, with the knife’s edge directed towards the inner (not the outer) canthus, whereby both borders of the wound are made of equal thickness. I then plunge the knife into the cornea, until it reaches the anterior chamber; then holding the instrument at a somewhat obtuse angle, I carry it inwards, making an incision one-eighth of an inch in length. The knife is then withdrawn from the wound by carrying it backwards.

“As the wound is small, it gapes open but little, and the aqueous humor flows out very slowly; but, quick as possible, I seize the glass cornea with the pincers, and insert it in the incision, as a button in a button-hole. All this insertion must be done very quickly, for upon the time occupied depends the reaction and disturbance which are to follow. In conclusion, I remove the lid-holder, and glue up both eyes.

“The quantity of aqueous humor that escapes during the operation, is in exact ratio with the disturbance and trouble that follow. When little escapes, the iris is little irritated, and the lens but slightly disturbed. In some instances, I was fortunate enough to lose only two drops of the aqueous humor; these cases healed very quickly, and I was convinced that neither the iris nor lens had been at all disturbed. In those cases where the incision was too large, and did not hold the glass, the operation proved a failure, and I sealed up the eye, allowed the wound to heal, and afterwards operated again with better success.”

In regard to some of the sequelæ, he says: “In all cases there appeared, on the first day, a universal conjunctivitis, and a ceratitis, with some disturbance of the cornea; in several cases, an onyx. The former symptoms disappear quickly; and the abscess of the cornea heals usually in eight to fourteen days, when the glass, inclosed in an exudation, ceases to be objectionable to the

cornea. Iritis I have observed only when the operation was so conducted that much aqueous humor was lost, and the lens impinged upon.

"In regard to the appearances in general, my patients seemed as free from pain after the eighth day as before, and the general aspect of the cornea appeared much less disturbed than in those cases where a portion of the cornea was removed (as in transplantation of the cornea). The appearance of the eye is not particularly bad; around the glass there is a small, white, opaque circle, to which extend, from the border of the cornea, one or two small blood-vessels. The eye has no irritability, and no photophobia even to glaring light."

As to the intimate changes which ensue in the tissue of the cornea, from this operation, the author says: "The sections which I have made during the various stages of healing, presented anatomical changes corresponding to the different sequelæ. The perfectly healed cornea I have often observed microscopically. I found the fibres in the vicinity of the glass always more or less troubled, and slightly lengthened; close to the glass, they presented a wave-like aspect, and their usual parallelism was wholly wanting."

The artificial cornea must, of course, be made with great care, and its size and various proportions varied according to the eye to receive it. The author recommends the rock-crystal as the best material out of which this body is to be formed.

These experiments, from their success, have excited no little attention in the locality of their occurrence, and Von Siebold, a name too well known in science to require mention here, and one of the editors of the journal in which this article was published, carefully examined some of the dogs operated upon. He was surprised to find so little disturbance from the foreign body. Indeed, he says, the animal suffered no inconvenience, the secretions of the eye were not diminished or increased, and the animal winked, or otherwise used the organ, as in the natural state. He considered the subject of sufficient importance to have a lithographic plate made of one of these animals, with details of the parts. At all events, the subject is not lacking in ingenuity; and it having been shown that a perforated glass body, of small size, can be introduced in the cornea, and there remain harmlessly—this, certainly, is an important fact learned; but the application of this operation to man can alone determine the visual relations of this body, and the greater or less degree in which its orifice can transmit rays of light for the formation of an image on the retina.

**ART. 90.—*Statistics of Operations for Cataract in the General Hospital at Madrid.*
By M. A. SAEZ.**

(*Gaz. Hebdomadaire de Méd. et Chir.*, June 23, 1854.)

These statistics specify, in a general manner, that of 525 operations performed between 1838 and 1845, the results were favorable in 441, and unfavorable in 84. In these statistics no information is given as to the kind of operation, and as to some other important points; but one fact is mentioned, which curiously exhibits the influence of surrounding circumstances upon the success of the operation. It is this. In the spring of 1842, there being more patients than usual, the supernumeraries were accommodated in a ward which was cold and damp. During this time 53 cases were under treatment, 37 in the ordinary ward, which was dry and warm, and otherwise convenient, and 16 in the additional ward, which was as has just been described, and with this result. Of the 37 cases, 31 were successful; of the 16, *only* 8. The reason of this great difference, it is said, can only be ascribed to the catarrhal symptoms consequent upon the coldness and dampness of the ward, and very properly so.

ART. 91.—*A new Eye-douche.* By Mr. HAYNES WALTON, Surgeon to the Central London Ophthalmic Hospital.

(*Medical Circular*, Oct. 4, 1854.)

The accompanying engraving will give a clear notion of the simple and ingenious eye-douche which Mr. Walton has introduced into the Central London Ophthalmic Hospital, and into private practice.

It consists of a tin box (capable of holding about six pints of water), to which a ring is attached for suspension. To the bottom of the box is fitted a tube of vulcanized india-rubber, which ends in a little brass stand, surmounted by a stop-cock having four holes. The stand is for the purpose of being placed in any reservoir that will receive the water, when the jet is returning from the eye.

It will be found that the peculiarity and modernization consists in the elastic tube and the stand. The apparatus is manufactured by Mr. Cooper, of 26, Oxford Street. The advantages of its construction are, that it supplies a continuous jet by the weight of water, and is therefore independent of valves or the movement of a piston, and that it is kept in action without any exertion on the part of the patient, and cannot get out of order from disarrangement of machinery. No pumping is required, and the person using it has his hands free.



Of its use, the writer of the hospital reports in the *Medical Circular*, says:—

"It is evident that but part of the value of the eye-douche is to be witnessed among the attendants at an hospital. In them it must be almost confined to the removal of foreign bodies from the eye, and the washing away of purulent and other secretions, as well as of blood after operations; in a word, to cleansing the eye. Its greatest benefit is to be found in inflammatory affections of the eyelids, and of the eyeball, and for which it must be used daily and several times a day. Mr. Haynes Walton assures us, that in private practice he has seen affections resist routine treatment in the hands of several surgeons, and get well under the douche system. Moreover, that he has recommended the douche, with advantage, to literary men and to persons who use their eyes in trades requiring that degree of minute vision that fatigues the eye. To confer the full benefit, therefore, of this remedy to the working man, there must be manufactured an article of a price to suit his means, and this has not been lost sight of by Mr. Cooper, who is contriving an apparatus of cheap materials. We trust that the committee of the Society of Arts, who are directing their attention to the injurious influence of certain trades on the eye, will not lose sight of the remedial value of the eye-douche."

ART. 92.—*On Quasi-malignant Pustule of the Lips and Face.*

By Dr. PARKER, Professor of Surgery in the New York College of Physicians and Surgeons

Several cases of a peculiar form of inflammation of the lips and face have recently come under Dr Parker's notice, which resembles somewhat phlegmonous erysipelas, but more strikingly, especially in its commencement, malignant pustule, and, in its subsequent progress, carbuncle. It, however, differs from these affections in some essential particulars, which will be illustrated in the following cases. Dr. Parker writes:—

CASE 1.—I first saw this patient on the 18th of last December. He was a young man, æt. 23, merchant, of good character, temperate habits, and in the previous enjoyment of good health. About a week before I visited him, a small pustule made its appearance upon the central portion of the lower lip, just below the edge of the vermilion border. It became painful, had a livid areola, gradually but slowly enlarged, and finally broke and began to discharge. The pain increased, and the swelling extended downwards upon the chin. At my first visit, about this period, the tumefaction had reached as low as the os hyoides, and had extended over the right side of the face to the head; it was hard to the feel, of a livid color, insensible, and had now much the appearance of a carbuncle. The lips were greatly tumefied, everted, gums swollen, and of the same livid color, tongue moist; inside of mouth unaffected, ptialism considerable. The lower lip, about the seat of the original pustule, appeared gangrenous. The pulse was 120, rapid and feeble, respiration unaffected. He was able to get up and sit in the chair, but was suffering from great depression of the vital powers. The course pursued consisted of deep scarifications of the lips, and yeast poultices to the swelling, and stimulants to sustain the general system. The swelling continued to extend, involving successively the neck, face, and finally the head. He died on the following day, the 19th, late in the evening.

CASE 2.—I visited, on the 15th of January, a patient, æt. 45, merchant, suffering from what appeared to be a carbuncle of the under lip. He was of a good constitution, temperate habits, and in the enjoyment of good health, previously to the present attack. Four days before I saw him, he was supposed to have cut the lower lip slightly, and applied to it arnica. The inflammation commenced at this point, the lip swelled largely, became everted, had a livid color, was tender, hard, and the seat of a burning pain. At several points there were small sloughy apertures, discharging thin pus. The constitutional symptoms were considerable, but not sufficient to confine him to his room. The treatment consisted of free incision and yeast poultices to the lip, and sustaining remedies for the general system. Portions of the lip sloughed, but he recovered.

CASE 3.—Mr. W., æt. 26, married, furniture dealer, of good habits, and hitherto perfect health, discovered a small pustule on the under lip near the right angle of the mouth, on the 2d of April. It was tender on pressure, and had a hard base, but attracted no other attention. During the night the disease extended considerably, involving the whole lip and the right side of the face in a hard, livid, and painful swelling. On the evening of the second day his physician first saw him, and found the lip greatly swollen, of a livid color, and the seat of a burning pain. He scarified the parts for the purpose of local depletion, and also applied leeches. The swelling continued to extend, involving the right side of the neck and face to a great extent. I saw him on the 7th, at 11 A. M. His symptoms were then most unfavorable, pulse 130 per minute, intermittent every seventh or eighth beat, weak and small, respiration rapid, moaning; skin warm and moist, urine free; pupils much dilated; mind clear. He complained of oppression about the chest, and had not been able to obtain sleep. Both lips were involved in the swelling; were hard, livid, and insensible; the whole side of the neck and face was similarly affected, the eye being nearly closed. The frontal vein was livid, red, and prominent, and the veins of the cheek were also visible, as if distended. The treatment consisted of deep scarifications of the lips, and yeast poultices to the part, with anodynes and stimulants. I visited him again at six o'clock, P. M., and found him rapidly failing; treatment of no service. He died the same evening.

CASE 4.—I was called, April 10th, to see Miss S., æt. 30, occupied as a governess, of good constitution, whom I found laboring under the same difficulty as in the preceding cases. Her history was almost precisely similar. Five days before, while in the possession of apparently perfect health, she first observed a small pustule on the lower lip, just below the red line of mucous membrane; it was regarded as a small boil, and no attention given to it. On the following day the pustule had enlarged somewhat, was hard, and had a livid areola, but she continued about her employment; she spent a feverish, restless night, and on the next day called her physician. The disease gradually extended, assuming the appearances already noticed, and for two days no danger was apprehended. Her symptoms now became much more unfavorable, and at this period I first saw her. She was lying in bed quite insensible; deglutition difficult; respiration laborious; right side of body paralyzed; lips large, everted, and cold; right side of face, neck, and forehead swollen like the lip, hard and purple; right eye protruded; pupils dilated and insensible. On making an incision into the lip, the cellular substance was found filled with small deposits of pus, which were forced out on slight pressure. As she was moribund, treatment was of no avail.

From the history of the foregoing cases it is evident that this disease differs from erysipelas, for which it has in several instances been mistaken, in its origin in a pustule, without a chill or other constitutional disturbance, the hardness of the swelling, its purple or livid color, insensibility, and absence of much pain. It differs from carbuncle, which in some features it resembles in the class of individuals which it attacks—they being young, temperate, of sound constitution, and in the previous enjoyment of good health—and in its rapidly fatal course. Carbuncle on the contrary, occurs by preference in persons enfeebled by age or vicious habits. It differs again from true malignant pustule, to which in its origin it seems allied, by attacking persons who have not been affected by poisonous wounds, or who have been liable to the introduction of animal poisons into the system.

“The disease would therefore seem to be peculiar, having many points of resemblance to other similar affections, but still not so closely allied to any one as to warrant its classification under the same head. In every instance which has come under my own observation, the pustule has been seated upon the lower lip, and from this point the inflammation has spread. In a fatal case related to me by a physician, in whose practice it recently occurred, the pustule was seated upon the side of the nose.

“Although the nature and progress of the disease show a vitiated state of the system, in no instance have I been able to trace the attack to the contact of poisonous matter, or its reception into the system in the food or drink. In every instance the patient has been in the enjoyment of good health, and the progress of the disease, though rapid, has excited so little local and general disturbance as not to excite alarm until a short time before its fatal termination. The general symptoms are of a typhoid character, the vital powers being evidently depressed either by the influence of the disease itself, or, which is more probable, the cause upon which the development of the disease depends.

“The late Dr. Peirson, of Salem, Massachusetts, reported (*Bost. Med. and Surg. Jour.*, 1852) several cases very similar to the above, and considers the disease malignant pustule. Among them is the case of Hon. Robert Rantoul, whose disease was thought to be erysipelas, but which Dr. Peirson describes as malignant pustule. The pustule in this instance was situated upon the forehead, and depended upon no known local cause. With but one or two exceptions, the remaining cases in this paper occurred in curriers, and hence Dr. Peirson attributes the disease to inoculation with dead animal matter. Some of them bear a strong resemblance to the cases above related, the disease attacking the lips of healthy young persons, entirely unexposed, and spreading thence upon the face. These can scarcely be classified under the head of malignant pustule, as described by authors. Bayle speaks of a form not depending upon an external cause, but this distinction is not generally received.

“The success of the treatment depends upon the *early* recognition of the true nature of the disease. It is very liable to be mistaken for erysipelas, and a course of treatment adopted accordingly, which avails little in staying its pro-

gress. Attention to the points of a differential diagnosis already given, will prevent the practitioner from falling into this error. The treatment best adapted to meet the indications of the case are deep and free scarification, followed by yeast poultices, or turpentine, the object being to prevent sloughing and to promote healthy suppuration. The general system requires soothing and sustaining remedies, such as are suited to an ataxic condition. The early and prompt employment of these means will afford a fair, and probably the only, hope of success in the treatment of this disease."

ART. 93.—On the treatment of wounds made in "Plastic Operations" about the Face.
By Mr. SPENCER WELLS.

(*Medical Times and Gazette*, July 8, 1854.)

"In cases of wounds about the face," writes Mr. Wells, "where we wish to procure a very fine cicatrix, and are especially anxious that no traces of the points of suture themselves shall remain, the best plan is, to use alternate common sutures and the twisted suture to be presently described, applying them so close together, that scarcely a line remains between them, and then cover the whole of the knots with collodion. On the following day, or as soon as eight hours after the operation, all the sutures may then be safely removed, for the threads have been so firmly fixed to the skin by the thick covering of collodion, that they form a sufficient support to the wound, and keep the edges in perfect apposition. The pins are first withdrawn carefully, substituting a narrow strip of plaster for each. Then the common sutures are cut and removed successively, their place being also supplied by strips of plaster. This being done, a layer of collodion is covered over all. In this way, after removal of all the sutures, the wound has a perfectly firm, equally compressing dressing, which, after eight or ten days, loosens spontaneously, and leaves a cicatrix which is almost imperceptible. We entirely avoid, by this plan (for which I am indebted to Professor Langenbeck), phlegmonous inflammation of the integument, which might be set up by a longer continuance of the sutures. But it must not be adopted when the wounds are in parts subject to unavoidable disturbance by movement, as in the alæ nasi, the upper lip, angle of the mouth, &c.; because the layer of collodion might be loosened by the movements; nor after plastic operations in males, where portions of skin covered by a growing beard are united, because the beard growing raises up the layer of collodion. For these useful hints I am also indebted to Professor Langenbeck."

ART. 94.—On the nature of Ranula. By Dr. C. O. WEBER.

(*Virchow's Archiv*, Bd. vi. Ht. 2, 1854.)

Arguing from two cases of ranula, occurring in the Surgical Clinique, at Bonn, Dr. C. O. Weber concludes that this disease is not a dilatation of a salivary duct, but an enlarged synovial sac. This sac he considers to be that which was first described by Fleischmann, in a thesis, published at Nuremberg, in 1841, "*de novis sub lingua bursis*;" and the existence of which has been subsequently confirmed by Froniep. This sac lies immediately under the mucous membrane, close to the frænum linguæ. Dr. Weber arrives at this conclusion, from the fact, that the fluid contained in the ranula, in his two cases, did not contain the characteristic elements of saliva, namely ptyalin and sulpho-cyanate of potash; and also from the fact, that the sac did not contain those anatomical elements which would have been present, if it had been an enlarged salivary duct.

ART. 95.—Fatty pendulous Tumor of the Pharynx and Larynx.
By Mr. HOLT, Sen. Surgeon to the Westminster Hospital.

(*Pathological Transactions*, vol. v, 1854.)

This case possesses much interest; first, from its rarity and the large size of the tumor; secondly, from the imperfect closure of the glottis, as a consequence of the altered position of the epiglottis, by which alteration frequent opportunities

for the introduction of foreign substances were afforded; and thirdly, from the fact that there was no permanent dyspnoea or alteration of the voice.

CASE.—J. A. æt. 80, a robust man of active habit, was under the care of Messrs. Randolph and Rust, of Westminster, to whom Mr. Holt was indebted for the opportunity of exhibiting the specimen. About twelve years since, the patient's attention was directed to his throat, from an occasional, but then increasing, sensation of choking, of no material moment when he was calm, but becoming urgent upon excitement; this gradually became more frequent, and he was aware of some swelling, or slight bulging, at the upper part of the throat. About four years prior to his decease, during the act of vomiting, a large mass became protruded, and to prevent immediate suffocation he was compelled to return it as speedily as possible. He was at all times better able to swallow solids than fluids, for as his powers of mastication were not good, he took the precaution of cutting his food into very small pieces. In swallowing fluids he occasionally experienced great difficulty and choking, but latterly, from taking everything very slowly, he was comparatively comfortable. His voice was hoarse, but occasionally distinct, more especially if perfectly calm; but when excited, it became gurgling and inarticulate. He died suddenly while smoking his pipe, and it is conjectured (there not being any person present), that the fumes of the tobacco produced sudden cough and displacement of the growth, by which immediate suffocation ensued. Upon a *post-mortem* examination, the viscera generally were found in a healthy state, and there was nothing to account for immediate dissolution beyond the presence of the tumor and its attachments. Upon examining the pharynx, a large, pendulous, fatty tumor was detected, filling the pharynx, and extending downwards towards the œsophagus to the extent of nine inches. It was attached by an envelope of mucous membrane and fibrous tissue to the left side of the epiglottis, dragging it downwards and to the left side, so as entirely to prevent perfect closure of the larynx; it was also connected with the upper part of the pharynx; but, with these exceptions, it hung perfectly loose in the pharynx and œsophagus. Several fatty tumors of small size were noticed in the neighborhood.

ART. 96.—*Removal of a large fibrous Tumor from the Neck, by "Morcellement."*
By M. MAISONNEUVE.

(*L'Union Médicale*; and *Medical Times and Gazette*, Sept. 9, 1854.)

By the employment of the method which he calls "*morcellement*," i. e. division into pieces, M. Maisonneuve has accomplished the removal of an enormous tumor from the neck of a woman, who had in vain solicited other surgeons to undertake her case.

CASE.—The patient's age was 35. The tumor had been growing for more than two years, and latterly had become so large as to render respiration difficult. It occupied the whole left side of the neck, extending vertically from the mastoid process to below the clavicle, and transversely from the spinous processes of the vertebræ to behind the larynx and trachea, which were strongly pushed to the right side. Its surface was slightly nodulated, and it had the firm, resistant character of fibrous tissue. It was not movable on the deep-seated textures, but the skin glided easily over its surface. The patient suffered no pain, even when the tumor was pressed upon, neither was there any pain or numbness in the left arm.

M. Maisonneuve concluded that it was a fibrous tumor attached to the transverse processes of the vertebræ, and determined to attempt its removal. This he accomplished after a long and laborious dissection, in the course of which the carotid artery, internal jugular vein, and pneumogastric nerve were exposed, as well as the cervical and brachial plexuses of nerves. It was found necessary to divide the tumor first into two equal portions, and then to halve the upper portion. By this means the removal of the mass was greatly facilitated, and the numerous vessels and nerves which passed through the tumor were preserved from injury. Portions of the scaleni and of other muscles which had become entangled in the substance of the tumor, were, however, unavoidably removed.

The operation was attended with but slight loss of blood, and was completed in three-quarters of an hour, during the whole of which the patient was kept under the influence of chloroform.

The wound left by the operation was enormous. At the bottom of it the last six cervical vertebræ, the first rib, the cervical and brachial plexuses, the carotid and subclavian arteries, the internal jugular vein, pneumogastric nerve, trachea and œsophagus, larynx and pharynx, were exposed to view. However, by the skilful application of dressings, and the judicious employment of pressure, in three days four-fifths of this extensive wound had closed in, and that which remained open was covered with healthy granulations. The patient was quite well by the end of a month. All the deranged structures had recovered their natural position, nor had she received the least apparent injury from the operation.

The tumor was of a purely fibrous nature, and weighed nearly eight pounds.

(C) CONCERNING THE CHEST, ABDOMEN, AND PELVIS.

ART. 97.—*On lateral curvature of the Spine, to illustrate a new instrument.*

By MR. BRODHURST, Assistant-Surgeon to the Orthopædic Hospital.

(*Medico-Chir. Transactions*, vol. xxxvii., 1854.)

Mr. Brodhurst considers that lateral curvature depends—1stly, upon hypertrophy of muscles; 2dly, upon atrophy of muscles; 3dly, upon spasm of muscles; 4thly, upon relaxation and extension of the intervertebral ligaments; 5thly, upon rachitis; 6thly, upon difference of length in the lower extremities; 7thly, upon difference of capacity in the two sides of the chest; 8thly, upon congenital defects. He believes that in most cases a consecutive inclination of the vertebral column succeeds to the primary curve, and he argues, that for the cure of the deformity mechanical means must be especially applied to the latter. After describing the changes in form which may ultimately affect the parts involved in the distortion, he proceeds to argue that pressure should not be applied to the convexity of the curve, but that that extending force should act on the concavity, by which the arch would be, as it were, unfolded. The instrument which he recommends consists of a band fixed to the pelvis, of crutches passing from the pelvic band to the axilla, of a connecting-piece which unites the crutches, and which is placed at the superior extremity of the primary curve, the whole forming a framework to support the trunk. On this last mentioned backpiece a lever moves on its axis, connected below to the pelvic band by a screw. The lever rises to the top of the shoulder, which is opposed to the primary curve; it is there joined to a shoulder-sling, which is moulded in gutta percha. A pad having the shape of the convexity of the primary curve is attached by a short arm, with an antero-posterior movement, to the lever. The use of the instrument is illustrated by drawings.

ART. 98.—*Case of distortion of the Spine, with observations on rotation of the vertebræ as a complication of lateral curvature.* By THOMAS HODGKIN, M.D., L.R.C.P., and WILLIAM ADAMS, F.R.C.S., Assistant-Surgeon to the Royal Orthopædic Hospital, &c.

(*Medico-Chir. Transactions*, vol. xxxvii., 1854.)

This paper is based upon the post-mortem examination of the late Dr. Gideon Mantell, the celebrated geologist, who died on the 10th Nov., 1852. Ten years previous to his death, being then 48 years of age, he suffered from excessive pain in the back, inducing him to apply an opiate liniment and leeches. He had undergone great fatigue in attendance upon surgical cases requiring a stooping position during upwards of two hours daily. He was also thrown from his carriage, by which his back was hurt, and besides this, he was on one occasion exposed to intense cold at night. Paralysis of the lower extremities with great pain, retention of urine, and want of control of the rectum soon took place. After many weeks, voluntary power slowly returned; sensations followed with intense neuralgia. A tumor, which increased rapidly, was observed in the left

lumbar region; and Dr. Mantell sought the advice of many of the leading members of the profession, including Liston, Brodie, Bright, Lawrence, Stanley, Coulson, Hodgkin, &c. The general opinion, especially at the earlier period, seems to have been that the tumor was a lumbar abscess connected with disease of the spine; fluctuation is said to have been distinct, and one of the surgeons consulted proposed to open it. The fact, however, that the supposed lumbar abscess made no progress after the lapse of a considerable time, from one to two years, threw considerable doubt and obscurity over the case. An indistinctly lobulated character (found at the post-mortem examination to be due to the transverse processes of the lumbar vertebræ projecting posteriorly) was noticed, and once led to the suspicion of a malignant tumor in connection with the bodies of the vertebræ, an idea what the subsequent progress of the case wholly removed. The tumor became slowly harder, and the abdominal aorta was pushed forward. The neuralgic pains by degrees became less frequent, but his health was broken up.

To relieve intense suffering, he sometimes resorted to anodynes; but it does not appear that he ever prescribed large doses for himself. On the last occasion a dose of this kind, which is believed to have been taken on an empty stomach, produced symptoms of narcotic poisoning, which proved fatal.

He left a written request that Dr. Hodgkin should make a *post-mortem* examination of his body, and that any specimen of interest should be removed for scientific purposes, and afterwards deposited in the museum of the Royal College of Surgeons. Mr. W. Adams's assistance was requested by Dr. Hodgkin, and a minute account of the portion of the spinal column removed is furnished by him, together with some general observations on the nature of the affection, in which Dr. Hodgkin concurs.

The body did not present any remarkable external appearance, beyond a slight fulness in the left lumbar region. On dissection, no morbid appearance presented itself in the soft tissues in this region; the subcutaneous cellular tissue, fat, muscles, &c., were quite healthy. There was no trace of any morbid growth, cyst of abscess, or of any inflammatory process, having existed in the neighborhood. The only abnormal condition found, was a very remarkable form of distortion of the spine in the lumbar region, which, in its anterior aspect, presented the appearance of a very severe degree of lateral curvature to the left side, whilst posteriorly, the apices of the spinous processes deviated so slightly from their vertical position with respect to each other, that no lateral curvature was apparent, and from measurement of the specimen removed probably did not extend to more than a quarter of an inch.

“The deformity of the spine cannot, however, be correctly described as a lateral curvature; for the bodies of the first, second, third, and fourth lumbar vertebræ are also rotated in a horizontal or transverse plane towards the left side, so that the anterior surfaces of the bodies of the second and third vertebræ have a lateral, rather than an anterior aspect. The rotation in these vertebræ, extends to very nearly 45° from the median plane, the centre of motion corresponding to the apices of the spinous processes, which have therefore preserved their normal position.” As a necessary result of this movement, the transverse processes of the first three lumbar vertebræ on the left side projected backwards towards the skin at a corresponding angle, and rose exactly to the level of the apices of the spinous process, whilst the transverse process of the same vertebræ on the right side were depressed, or sunk inwards, towards the abdominal cavity. A vertical section through the bodies of the vertebræ showed the absence of any destructive disease either in the bones or cartilages; but lateral absorption of the bodies of the vertebræ, and to a greater extent of the intervertebral cartilages, had taken place, from unequal pressure, in the concavity of the curve. The articular processes, which had evidently been subject to a very severe amount of irregular pressure and strain, had become much altered in form, and considerably enlarged by the growth of new bone, principally at the margins of the articular surfaces, which have thus been retained in contact, though the articular aspects, or direction of their facets, were very materially altered, so as to permit the transverse rotation movement above described. The process by which this enlargement has taken place, Mr. W. Adams considers to be similar to that by

which the enlargement of the articular extremities of bones has been shown by him to take place in chronic rheumatic arthritis.

One peculiarity of the case, as an example of a single curvature in the lumbar region, was the absence of a compensating curvature in the dorsal region; but this was explained by the fact that the last two lumbar vertebræ, and their cartilages, together with the sacrum, formed a sharp curve in the opposite direction, viz., to the right side, chiefly due, like the larger curve, to the lateral absorption of the cartilages, the last two of which were diminished a quarter of an inch on the left side. Thus, a vertical line drawn through the centre of the tenth dorsal vertebra, passed very nearly through the centre of the sacrum.

The pain, which is said to have been at times very intense, is supposed to have depended upon the irregular strain and pressure upon the articular processes, inducing the structural alterations above described, rather than direct pressure upon the spinal nerves; the spinal canal was not laid open, because so doing would have destroyed the value of the specimen as one of very remarkable deformity. The tumor, which excited so much attention during life, must have depended essentially upon the protrusion of the lumbar muscles by the posterior projection of the transverse processes of the lumbar vertebræ, though from the variations of size it was said to have undergone, it appears probable that this was occasionally increased by infiltration of the superficial tissues, under the influence of the intense neuralgic pain described; as we see in the swollen face under similar conditions. It is certainly impossible that an abscess of any considerable size could have formed and disappeared, without leaving some visible traces behind it.

"The fact," Mr. Adams observes "of the greatest practical importance, which this specimen illustrates, and clearly proves, is one which I believe has not hitherto been described, viz., that a very severe degree of lateral curvature of the spine, with transverse rotation of the bodies of the vertebræ, accompanied with lateral absorption of the bones and intervertebral cartilages to a considerable extent, and attended with all the distressing symptoms of the most aggravated form of this affection, may exist, with only a very slight lateral deviation of the apices of the spinous processes; in short, that the severest degree of deformity of the spine may exist internally without the usual indications in respect of the deviation of the spinous processes externally. When it is borne in mind that all surgeons are in the habit of relying upon the relative position of the apices of the spinous processes to the median line, as an index to the existence or non-existence of lateral curvature, the importance of the fact above described cannot be over-estimated in the diagnosis of this affection. In this particular case, it does not appear that any of the very eminent physicians and surgeons who examined Dr. Mantell suspected the existence of lateral curvature of the spine; the hard nodules felt in the lumbar region, and once supposed to be the lobules of a tumor connected with the bodies of the vertebræ, were not at any time recognized as the transverse processes of the vertebræ. This can hardly be matter of surprise, when it is remembered, that it was the only positive symptom taken in conjunction with the general aspect and inclination of the body, if any permanent defect of symmetry existed, by which the affection could have been diagnosed, and up to the present time such a condition has not been described as diagnostic by any authority on curvature of the spine. A careful study of the present case will, however, enable us to diagnose a similar condition in a like case, with as much certainty as if the ordinary indications were present."

The condition of transverse rotation of the vertebræ, the centre of motion corresponding to the apices of the spinous processes, appears to have been observed by the late Dr. Dods of Bath, who, in the year 1824, published a work entitled '*Pathological Observations on the rotated or contorted Spine, commonly called Lateral Curvature,*' but it was only observed in the lumbar region in cases of obvious deformity in the dorsal region, for which he was consulted. No difficulty of diagnosis therefore existed, and it does not appear that its value in this respect occurred to him; he mentions the fact only in confirmation of his erroneous theory, that what he calls the deceptive appearance of lateral curvature depends

upon the profile view of the natural flexures of the spine being brought into view posteriorly by a rotation movement.

M. Jules Guérin appears to have noticed the disproportion between the internal and external curvature in many cases, and particularly recognizes the influence of transverse rotation; but he does not mention any case at all analogous to Dr. Mantell's, and no diagnostic value is attached to the effects of rotation, viz., posterior projection of the transverse processes in the lumbar region, and of the angles of the ribs in the dorsal region, with respect to the existence of internal curvature, where the apices of the spinous processes have not deviated externally.

English writers have alluded to rotation only as a passing observation, without attaching any practical importance to it, and by several of the principal authorities of the present day it is altogether omitted; there can be no doubt, however, of its frequent occurrence both in slight and severe cases of lateral curvature, and when it exists it constitutes one of the chief difficulties of treatment. All the instruments at present so generally used, which make direct lateral pressure on the convexity of the curve, must tend to increase the mischief, though, by their effect in flattening the ribs, this result may not at first sight be apparent.

ART. 99.—*Simulated or "Phantom" Tumors in the Abdomen.*
By Mr. ———.

(*Medical Times and Gazette*, Sept. 30, 1854.)

The following interesting remarks are made upon certain cases under the care of Drs. Addison and Gull. They occur in the weekly report of "*The London Practice of Medicine and Surgery*."

Among the circumstances which combine to make the investigation and diagnosis of abdominal tumors difficult, is the existence of a class in which the symptoms are so changeable that it becomes almost impossible to decide whether or not any tumor does exist. The signs are present one day, entirely absent on another, then present again, in a most perplexing manner. Every practitioner of experience must have met with such puzzling cases; but to those who have not, it would be impossible to convey any idea of the degree to which they sometimes simulate real tumors. Dr. Bright, in his papers on Abdominal Tumors, in the Guy's Hospital Reports,* mentions a case in which, in an hysterical woman, the surgeon had been induced to attempt ovariectomy, believing that an ovarian cyst was present. The incision having been made, no tumor whatever could be found, and the operator was obliged to desist. The woman fortunately recovered, and the tumor at a subsequent period again made its appearance.

One of the earliest allusions to this deceptive class of cases was, we believe, by Dr. Bright;† and in the wards of Guy's Hospital, they have since been the subject of much investigation. Our own knowledge of them has been chiefly derived from the clinical observations of Drs. Addison and Gull, under whose care several very instructive cases have occurred during the last few years. To the latter gentleman it is, we believe, that the affection is indebted for its very appropriate name of "phantom tumor." We shall attempt, in the following sentences, a short summary of such facts as have been made out respecting them, but shall not occupy space with the details of cases, as the disease is one in which the prominent symptoms, from being essentially unreal, are interesting rather to the manipulator at the bed-side than to the reader of notes. Dr. Bright's allusion to the subject to which we have referred, is as follows. In speaking of reported cases of disappearance of ovarian cysts, that experienced physician states:—"It is even possible that a certain number of these cases may be set down as instances of erroneous diagnosis; for there is no question that the diagnosis is not always obvious. There is one class of cases more particularly liable to lead the unwary and inexperienced into error respecting the disappearance of an abdominal tumor—I mean cases of hysterical distension of the bowels; for, although the swelling in these cases is essentially tympanitic,

* Guy's Hospital Reports, No. VI, p. 267.

† Loc. cit.

yet occasionally, from the singular way in which the intestines are partially distended, and remain so for days and weeks at a time, they sometimes give completely the forms of tumors; and sometimes even indistinct fluctuation may arise from fluid feces, or even from the co-existence of a distended bladder; and sometimes the large accumulation of hardened feces has led to a belief of a more solid tumor." To state them *seriatim*, we have then the following, as the chief conditions on which these variable tumors may depend. 1. Distension of the bladder. 2. Solid fecal accumulations. 3. Irregular contractions of the intestine at two points, and distension of the intervening portion, with flatus or with fluid feces. 4. Spasmodic rigidity of a part of the abdominal parietes. It may, perhaps, seem almost superfluous to add the last; but practically, it is one of the most frequent sources of deception. An hysterical patient is quite capable of making a circumscribed portion of the abdominal wall rigid and hard, while the rest remains comparatively flaccid; and even in a person of calm nervous system the same condition may be produced by an instinctive reflex act, for the protection of a part of the belly which is tender on pressure. The recti muscles are peculiarly apt to be the seat of these contractions, which may, however, also occur in the lateral regions of the abdomen. It is rare, perhaps, for any one of the above-mentioned causes to exist singly and uncomplicated by any of the others. Neither of the first two, indeed, unless exaggerated by one or other of the latter could properly rank as a "phantom" tumor. Hardened masses of feces are probably, however, the most frequent of the exciting causes of the affection. By the irritation produced by their lodgment, the intestines are made to contract irregularly, and local tenderness is also induced, which latter, in its turn, acts as an excitant, in producing reflex rigidity of a part of the abdominal parietes. It has been observed of phantom tumors, that they are much more frequent on the right than the left side, and that not rarely there are present in connection with them indications of renal irritation. Both of these circumstances are probably to be explained by reference to the facilities afforded by the cæcum as ascending colon for the delay and accumulation of scybalous feces. The period of early adult life would appear to be the one most liable to the development of this chain of symptoms. The simulated tumor in question is by no means met with only in the female sex, some of the most marked examples of it that we have seen having been in young men. As it regards treatment, that should of course be modified according to the peculiar circumstances of the case. A brisk purgative will probably be a remedy almost always useful, and afterwards a course of nervine tonics, or perhaps of antispasmodics, may be exhibited with benefit. The chief importance of the case is in the lesson they convey as to the necessity for great caution before pronouncing positively as to the existence of an abdominal tumor. The surgeon should always be content, in doubtful cases, to examine his patient, on several separate occasions, before venturing an opinion. In most cases, probably, the careful employment of percussion and palpitation will be competent to decide the question correctly; but if there should be the least doubt remaining, the diagnosis should be deferred until, after the free action of a purgative, a second examination has been instituted.

We have introduced the above remarks among the examples of tumors resulting from accumulation of inflammatory products, because it is for such that these fictitious enlargements will generally be mistaken. Cases of typhlitis are perhaps those with which, more especially, they are likely to be confounded, and next to them, tumors springing from the kidney or abscesses in that organ.

ART. 100.—Gastrotomy performed in a case of Cancerous Stricture of the Oesophagus.

By Dr. E. FENGER, Surgeon-in-Chief to the Freidrich's Hospital, Copenhagen.

(*Virchow's Arch. für Path. Anat.*, vol. vi; *Medical Times and Gazette*, June 17, 1854.)

The operation of gastrotomy, as performed by M. Sedillot, of Strasburg, has been lately repeated by the Danish Professor, Dr. E. Fenger. As in the first cases, the operation failed to preserve the life of the patient, and the profession must decide as to the fact of its propriety.

CASE.—A man, æt. 55, of good constitution, was admitted into the Freidrich's Hospital, Copenhagen, Jan. 10, 1853. Habitually in good health, he had experienced, especially after eating rapidly, attacks of vomiting, attended with a slight flow of blood; but for the last two or three years the blood has ceased to appear upon the voided matter. From this time he had suffered less, feeling only during his work occasional sharp pains in the epigastric region, nausea accompanied by an acid taste, and rarely attacks of sickness. He had once drunk freely of spirits, and nine months ago had been treated for delirium tremens; his limbs were still tremulous. A fortnight before his admission the patient began to feel a fixed pain in deglutition, which he referred to the pit of the stomach, where there seemed to exist an obstacle difficult to be overcome. For the last five days he has been able to swallow only fluid aliment. The abdomen was distended superiorly, and sonorous upon percussion, except at the upper part, where there was evident dulness. A sound, introduced into the œsophagus, was stopped at about eight inches distance from the dental arch by some obstacle which could not be removed, and the attempt excited pain and the desire to vomit.

M. Fenger, after repeated trials at dilatation performed, at the desire of the patient, who was made acquainted with the dangers of the proceeding, the following operation, March 23:—An enema having been previously administered, the patient was rendered insensible by the action of chloroform. An incision was then made, commencing at the lower border of the ensiform cartilage, and extending downwards, outwards, and to the left, by the border of the costal cartilages, to the outer border of the rectus muscle. The skin, aponeurosis, and muscles, were divided; the epigastric artery was cut through and tied. The peritoneum was next divided; and the left lobe of the liver was felt. The index and middle fingers of the operator, introduced through the wound, touched the diaphragm, the spleen, and, lastly the stomach. Its anterior surface was seized and dragged to the wound, where it was secured by needles and ligature. The front of the stomach was then opened with care, and the mucous membrane fixed to the exterior; half a cup of mucilaginous liquid was introduced by means of a glass tube, the wound simply covered, and the patient put to bed. During the day he had some attacks of colic, but he slept well. On the morning of the 25th he had a sensation of hunger; pulse 104. Some greenish fluid flowed from the stomach. Towards mid-day the countenance altered, and he died 58 hours after the operation.

Autopsy.—There were no traces of peritonitis; near the spleen there was a small quantity of thick brown fluid. The mucous membrane of the stomach was natural. A cancerous tumor occupied the lower part of the œsophagus. There was no disease in other organs.

ART. 101.—*A successful case of Artificial Anus.* By M. JOEL.

(*Rév. Méd. Chir. de Paris*, June, 1854.)

This case is interesting for its rarity, for its successful issue, and for the remarkable length of time that the obstruction had lasted prior to the operation—namely 82 days.

CASE.—Mme. Monuard, æt. 46, of a nervous and irritable habit, and subject for many years to a small indolent hernia in the linea alba above the umbilicus. She was quite well up to the 5th of July, 1853, when she complained of a dragging sensation in the abdomen. During the next three or four days this pain continued and increased, the alvine evacuations were suspended, and the abdomen became tympanitic, but she did not seek medical advice until the 16th. The treatment adopted consisted of an emetic, with general and local bleeding, tepid baths, and assafœtida enemata. After the emetic the stomach continued to reject everything which was put into it. On the 21st, four drops of croton oil were given, but without effect. M. Joel saw her for the first time on the 22d. His treatment consisted of mercurial and belladonna frictions to the abdomen, with repeated small doses of mercury, and repeated purgative enemata. Small doses of strychnia were also tried. The effect of the enemata was to wash out the rectum and lower part of the colon, and to bring away some small fragments

of stercoraceous matter, but they procured no proper alvine evacuation. The vomitings continued up to the 42d day, the vomited matter being sometimes bilious, but never fæcal, when they ceased, and the patient was able to retain small quantities of food. They returned, however, on the 50th day. During the following month matters grew worse and worse every day, the vomiting continuing, and the patient being greatly emaciated and desponding. Her abdomen was not very tender on pressure, but was greatly distended with flatus, and this distension gave rise to much pain and difficulty in breathing. The bowels had never acted once during the whole of this time. Under these circumstances M. Joel decided upon opening the small intestine, after the plan proposed by M. Maisonneuve, the position of some eschars preventing him from opening the descending colon. This was on the 82d day of the retention of the fæces. The incision was on the right side, a little in advance of the iliac spine, and in the direction of Poupart's ligament, and, the intestine having been opened, the edges of the openings were secured to the external wound. The rest of the account is very concise. It merely says that the patient recovered without any impediment, and that a few months sufficed to re-establish her in all the appearances of good health, except that the artificial anus still continued to do duty for the natural opening. No opinion is expressed as to the nature of the obstruction, but, from an incidental remark, it does not appear to have been caused by the hernia, which was mentioned at the beginning of the case.

The account terminates by stating that animal food, milk, and bread, were digested completely, and that no trace of them could be detected in the matters passed from the artificial opening, but, that it was not so with legumes, carrots, cabbage, potatoes, and especially raw apples.

ART. 102.—*A curious Case.* By Dr. NICHOLLS.

(*Dublin Medical Press*, Oct. 4, 1854.)

Dr. Nicholls relates the case as an instance of the length of time to which a patient may survive after very serious injury. He writes:—

CASE.—On Sunday, the 20th of August, at 9 A. M., I was sent for to see Daniel Cashen, æt. 69, a patient in the Longford Workhouse infirmary. On arriving, I found that this old man, during the absence of the ward attendant for the breakfasts (three bed-ridden old men with Cashen being then the only occupants of the ward), had left his bed, and went to the fire with a rug around him. After a short time, the attention of the other old men was aroused by the smell and noise of something frying. Supposing from the smoke that the rug or his shirt had become ignited, and that he was burning, they gave the alarm. The nurse and ward attendant having arrived, it was found he had passed a hot poker into his belly. On examination, I found, directly above, and about one inch and a half from the umbilicus, a hole about an inch in diameter, quite plugged up with omentum.

Satisfied that it would be futile to expect the charred edges of the wound to unite, and that attempting to return the omentum might be more injurious than beneficial, I covered the injured parts with lint wet with turpentine, put on suitable bandages, and ordered an anodyne mixture, a spoonful occasionally. When the charred portions of the omentum and abdomen commenced sloughing, the stench became most offensive. I then had liniment. calcis, with creasote, applied with good effect. At the end of a week the slough became detached, and the wound, now the size of a half-crown, presented an erysipelatous appearance. I then substituted ungt. hydr. as a dressing, which was continued for three days. The inflammatory appearance having subsided, I applied wide and long strips of adhesive plaster above and below the wound, with the view of promoting the contraction of the orifice and retraction of the omentum. Over the wound I applied lint with liniment. calcis. His food consisted of milk with a little bread and tea. I gave no aperients, as I considered the less the bowels were disturbed the better. In this way he progressed favorably for twenty-one days, so much so, that I was congratulating myself on the prospect of his ultimate recovery, the wound being reduced to the size of a sixpence, closed by a small button of omentum.

At 7 A.M. on the 11th of September, the twenty-second day after the burn. I was again called to visit him. On arriving, I found him apparently dying; there was a large quantity of blood on the floor, and the bed and bedding all bloody. On examining him, I found a large quantity of omentum protruding from the wound, and blood still oozing. His hands all smeared with blood. The patients in the ward stated that the nurse had been, as usual since he burned himself, in to see him during the night, that the ward attendant had a candle lighted, and sat up with him until coming on day, when he went to bed for an hour, and on getting up at six found him as described, he (Cashen) having in the mean time removed the bandages and adhesive plaster, and inflicted further injury on himself. He was so exhausted I could not venture to have him removed to another bed, but had him made as comfortable as possible where he was. Whilst the nurse and ward attendant were arranging him, I observed something between the pallet and wall, which on examination I found to be a piece of detached omentum about the extent of my hand, and a portion of the colon, thirty-two inches long, also quite detached. I again applied turpentine, and administered restoratives. I had no expectation that he could make any attempt to rally, yet strange to say he did, and lingered until 10 A.M. on the 19th instant, when he ceased to exist, having survived the second injury eight, and the primary one thirty days.

ART. 103.—*Transfixure of the Body by a Bayonet, without Symptoms.*
By MR. GALLWEY, Surgeon in the Royal Artillery.

(*Medical Times and Gazette*, May 6, 1854.)

"A gunner and driver of the royal artillery had made a murderous attack upon his sergeant with a bayonet, whereby he inflicted two wounds, happily superficial only, upon one leg and arm. Foiled in his efforts of greater success by the seasonable arrival of some other soldiers, the culprit rushed through the barrack-square to escape his pursuers, when the sentry on duty at the gate interposed himself with his carbine, in the attitude of "charge bayonets," to obstruct him. The consequence of this movement to the other was, that, as he was rushing through a narrow passage with an impetus which he could not in time control, he threw himself (not premeditatedly, it will be understood) with great force upon the bayonet of the sentry, which entered his body an inch to the left of the ensiform cartilage, and, passing through the abdomen, emerged by its point on the left of and close to the spinal column some inches lower down.

"When I reached the scene of action, within two minutes after, I found the subject of this wound sitting up on a form in the guard room, as insensible to any effects from the injury as he was unconcerned at his crime. I could not, therefore, at first believe the statement of his comrades who told me what had happened, although the bayonet was handed to me *bent* by the violence to which it had been exposed; but, on stripping the wounded man, I discovered the two openings of entrance and exit of the bayonet, corresponding, in form and diameter, to those which the different parts of the weapon would have occasioned. Added to this, the bayonet was withdrawn from his body by a non-commissioned officer, upon whose testimony I could rely; and, what is more, this withdrawal of it was witnessed by a crowd of other soldiers around.

"Now, this desperate character marched, in a quarter of an hour afterwards, to the hospital, three-quarters of a mile distant; and, at the end of a fortnight, was discharged from the same, to be placed upon trial for his life. The day after his admission, his urine was a little bloody; and, subsequently, there was a general anæsthesia of the walls of the thorax and abdomen, which lasted but for a while. With these exceptions, the injury was not followed by a symptom, nor did the subject of it require a dose of medicine for his recovery.

"To the circumstance of the affray having been enacted *before* dinner, I am disposed to attribute much of the immunity from evil which this ruffian enjoyed. Had the stomach been full, it is not easy to conceive that a bayonet could have travelled through such a track of vital organs, without endangering one or more. The reader may be interested to know that the life of this soldier was spared, transportation for the rest of his days being the sentence of his court-martial."

ART. 104.—*The radical cure of Hernia by Iodine Injections.*

By M. JOBERT.

(Gaz. des Hôpitaux ; and Medical Times and Gazette, Sept., 1854.)

M. Jobert has presented to the Academy an account of three cases of inguinal hernia which were radically cured by injection of the tincture of iodine into the hernial sac.

The first case was that of a young man, æt. 18, who was affected with a complete inguinal hernia of the left side. It did not, however, descend to the bottom of the scrotum, and below was separated from the testicle by an elongated constriction. The bowel was readily reducible by the taxis, but immediately the patient coughed or stood on his feet it was again extruded. The patient stated, that his disorder in no way interfered with his ordinary occupations, but he was extremely desirous to be completely cured of it, as he was judged unfit for military service in consequence of its existence.

In compliance with the patient's wishes, M. Jobert determined to accomplish, if possible, a radical cure by injecting the tincture of iodine. On the 12th of May, therefore, having made an incision over the inguinal canal, he introduced a fine trocar, and injected through it 5 drachms of pure tincture of iodine. The patient suffered some little pain in consequence of the proceeding, and upon its completion, the wound was united by the twisted suture, and dressed with simple ointment. In the evening, there was slight swelling in the inguinal region, but no constitutional disturbance.

On the 14th, the swelling and redness was considerable, and, on removing the sutures, the wound was found imperfectly united. After some days, however, the redness and swelling disappeared, and cicatrization was accomplished. On the 5th of June the patient left his bed, walked about, and coughed without causing the least unnatural impulse of the abdominal viscera, or the slightest reappearance of an external tumor. The left testicle (that on the affected side) remained of the same size as the right. He was directed to wear a suspensory bandage for some time, as a precautionary measure.

In the second case, the patient, æt. 33, was admitted into Hôtel-Dieu on the 18th of November, 1853, with a hydrocele and a congenital inguinal hernia of the same side, and the two swellings being separated from each other by a kind of hour-glass contraction of the tunica vaginalis, the upper part of the sac being occupied with intestine, and the lower with serous fluid and the testicle. M. Jobert resolved, if possible, to obliterate the tunica vaginalis, and so to cure at the same time both the hernia and the hydrocele. With this view, having first interrupted the communication between the tunica vaginalis and the peritoneum by means of pressure applied to the inguinal canal, he passed a trocar into the lower portion of the constricted sac, and, after having let out the contents of the hydrocele, injected a small quantity of the pure tincture of iodine. On the following day the scrotum was red and slightly tender, and the affected tunica vaginalis distended with effusion of serum. The patient, however, manifested no constitutional disturbance, and complained of no pain. Day by day the swelling and redness diminished, and within seventeen days after the operation the scrotum had regained its ordinary dimensions; but, on the affected side, both it and the spermatic cord were firmer than natural. A cylindrical cord existed through the whole of the inguinal canal, and extended along the course of the spermatic vessels to the testicle. A complete cure was obtained, and the patient left the hospital, able to walk without fatigue, and exhibiting no re-appearance of the hernia, in whatever position he occupied. No serious local inflammation, nor any constitutional disorder resulted from the injection.

The third case was that of a congenital hernia of the left side, quite reducible, and equal in size to a large pear. The patient was twenty-seven years of age, and had been ruptured eight years. He had worn various bandages, in order to counteract his infirmity, only one of which had at all answered the purpose. As the patient ardently desired to be cured of his disorder, M. Jobert, in the presence of his colleagues, punctured the hernial sac, and injected into it a small quantity of the pure tincture of iodine. The patient was then placed on

his back, with his legs flexed slightly on the thighs, in which position they were maintained by a bolster. Almost immediately after the injection the hernial sac began to swell, and in fifteen hours the sac had become as large as if filled with intestine, and communicated a fluctuating half-solid character to the finger. The parts remained in this condition for eight days, after which the swelling rapidly diminished. Twenty-eight days after the operation the track of the spermatic cord was occupied by a cylindrical substance so compact and hard, that the patient was able to rise from his bed, to walk about, and to sit down, without the smallest appearance of an intestinal protrusion exhibiting itself.

The cure remained complete four months after the operation, the testicle had not atrophied, and the inguinal canal was occupied by a firm, solid cord, into which the vaginal process had become converted by its obliteration.

M. Jobert does not allow the tincture to remain permanently in the sac, but withdraws it by means of the syringe. In all cases of congenital hernia, or whenever the sac is distended with fluid, or is thickened and condensed, and has become adherent to the surrounding strictures, M. Jobert penetrates it at once with a trocar, without first dividing the skin with a scalpel; but whenever the sac is thin, movable, and easily displaced by pressure, he prefers to divide the skin with a scalpel, and expose the sac before puncturing it.

The superiority which the method by injection offers to all other proceedings which have been devised for the radical cure of hernia, depends, says M. Jobert, on its harmlessness and its simplicity; and M. Velpeau deserves the credit of having, in his *Annales de Chirurgie*, published ten years ago, first noticed the advantages of iodine injections for effecting the radical cure of herniæ.

ART. 105.—On the advantages of ice combined with compression in the treatment of Hernia. By M. BAUDENS.

(*Gaz. Méd. de Paris*, June 3, 1854.)

In sixteen cases of strangulated hernia, in which all the ordinary means of reduction had been unsuccessfully employed, M. Baudens has effected the return of the bowel by the application of ice associated with permanent local pressure. The degree of refrigeration is to be regulated in proportion to the amount of inflammation in the hernial tumor, and the sensations of the patient. M. Baudens commences by the application of a simple compress, which is soaked from time to time in water, the coldness of which is gradually increased. Fragments of ice are afterwards placed on the compress, and the cold thus produced may be augmented, if necessary, to a very considerable intensity by the addition of increasing quantities of common salt. Sometimes the refrigeration alone is sufficient to effect the reduction, as M. Baudens has witnessed on three occasions; but when this does not take place, an elastic bandage is applied over the ice, by means of which a continual steady pressure is exercised on the tumor. Whenever the rupture is so painful that no pressure can be tolerated, ice alone must be employed at the outset, and the elastic bandage may be added as soon as the sensibility of the swelling is sufficiently diminished. In order to facilitate the action of these measures, the pelvis should be kept in an elevated position.

M. Baudens ascribes the efficacy of this treatment to the powerful influence of cold in diminishing the size of the hernial tumor, by overcoming the capillary congestion, and extinguishing the inflammation in the strangulated bowel. Hitherto, says he, the treatment by cold has been condemned, because its therapeutical effects have been neglected or misappreciated. He regards the idea that the application of cold to a strangulated rupture is likely to produce mortification in the bowel as a groundless apprehension, believing that so large an amount of heat is developed in a part during the continuance of inflammation, so as to enable it to resist with facility long and powerful refrigeration, without at all endangering its vitality. He admits, however, that it is quite possible to continue the application of the cold too long, but maintains that the feelings of the patient furnish the best index as to the advantageous or prejudicial operation of the remedy. As long as the patient feels that the action of

the refrigerant is grateful, and productive of comfort, its application should be continued; but as soon as he begins to experience a disagreeable sensation of coldness and moisture, it should be immediately removed.

ART. 106.—*On the seat of Stricture in Strangulated Hernia.* By Mr. NATHANIEL WARD, Assistant-Surgeon to the London Hospital.

(*A memoir on Strangulated Hernia, from Cases occurring in the London Hospital.* Churchill, Pamphlet, pp. 33, 1854.)

These remarks are taken from a memoir, which was read before the Hunterian Society, and which is virtually a very able report on the operations occurring in the London Hospital during the last three years. The whole memoir is full of valuable information, and sound sense; and being based upon no less a number of operations than 69, the various opinions expressed come with considerable weight.

About the seat of stricture Mr. Ward writes thus:—

“It is curious and confusing to hear and to read the various descriptions as to what is termed the seat of stricture, or what, in my opinion, would be more properly termed the impediment to reduction; for the parts that surround the hernial protrusion can exert no active tightening effect upon it, but are rather themselves rendered tense by the pressure of the rupture, and its products from within, even, I imagine, although the coverings of the hernia may be, as in some forms of inguinal, muscular in their structure. This distension of tendinous and muscular structures, superficial to the rupture and its sac, in consequence of pressure exerted from within, is admirably illustrated in herniæ other than recent, in which the dimensions of the different hernial canals and apertures are so far from normal as occasionally to allow of the easy admission of three fingers, as occurred in one among this collection of cases.

“Sir Astley Cooper speaks of three sources of stricture: 1st, The crural sheath; 2d, Posterior edge of the crural arch; and 3d, The mouth of the hernial sac. Lawrence, of the thin posterior boundary of the crural arch as the very part that constitutes the stricture; and he compliments Gimbernat on the discovery. Mr. Hey speaks strongly of the falciform edge of Burns; Mr. Key places much stress on a band of fibres above and behind Poupart’s ligament; and Mr. Luke pointing out the transverse fibres that are occasionally found highly developed, and strengthening the sheath of the vessels, as frequently the seat of stricture, these being apparently identical with the bands alluded to by Cooper, as the anterior columns of the sheath of the hernial protrusion.

“Now it would appear *a priori*, from a consideration of the anatomy of the femoral canal, that the sharpest and most resisting structure would constitute the chief impediment to the return of the bowel. Gimbernat’s ligament has this peculiarity, and, in *post-mortem* examinations of femoral ruptures, the bowel will be found to have experienced a greater amount of injury at that part where it was in relation with Gimbernat’s ligament, than elsewhere. I had once an opportunity of being thoroughly satisfied on this point, on examining an old woman who had suffered from strangulated hernia, and had died without any operation having been performed. The mucous and muscular coats had entirely ulcerated where they were in relation to Gimbernat’s ligament, but not elsewhere.

“In numerous cases of femoral rupture, particularly in small and recent protrusions, an incision of Gimbernat’s ligament is quite sufficient to effect reduction, and, with this object mainly in view, I conclude Mr. Gay introduced his line of incision to the profession. It is worthy of remembrance, that Gimbernat’s ligament is in intimate relation with Poupart’s ligament, and with Hey’s ligament or the upper part of the falciform edge of Burns, and that they, by their blending together, constitute the greater part of the boundaries of the femoral ring. An incision of Hey’s and Poupart’s ligament could not consequently be made without relaxing somewhat Gimbernat’s, as was illustrated in many cases in this series, in which, after the incision of the former two, the hernia was readily reduced. Now it is true that, after the incision of Gimbernat’s ligament, or its relaxation by a division of Poupart’s and Hey’s ligaments, a rupture cannot, in many cases, be reduced, but returns easily on the further division of

the transverse bands strengthening the sheath of the vessels. These bands are then spoken of as the seat of stricture; but they clearly constitute mere secondary impediments, no case having, to my knowledge, occurred in which their division alone, without the previous incision of Gimbernat's or Poupart's ligament, was sufficient to allow of the reduction of the contents of the hernial sac. I conclude, then, that Gimbernat's ligament is the principal impediment to reduction. In small and recent herniæ it is usually the only impediment; but when the tumor has existed for some considerable time, and has much increased on its original dimensions, it distends the canal into which it has descended, and presses on and renders tense and hypertrophied different series of fibres in more or less original intimate relation with the sheath of the vessels, such as the deep femoral ligament, the transverse fibres of the sheath, and Hey's ligament; which structures were, in the small condition of the hernia, lax in comparison with Gimbernat's ligament, and produced no injurious effect on the tumor. These fibres, then, which in the majority of herniæ of long standing have thus become gradually hypertrophied and brought to this condition also partly by the pressure probably of a truss from without, require division on the supervention of strangulation, as well as Gimbernat's ligament, in order to effect the reduction of the gut.

"With reference to the transverse fibres of the sheath, properly so called, I would hazard a few remarks. I am not at all satisfied that the transverse fibres strengthening the sheath of the vessels exist so frequently as some surgeons imagine, and as one would be led to conclude from a perusal of Mr. Luke's essay: but that, on the contrary, they are, in many cases, artificially produced. I have carefully watched the steps of the operation in numerous cases of femoral hernia, and have observed, that immediately after the exposure of the external oblique tendon, the director has been glided down the tendon, and insinuated immediately beneath the lower border of Poupart's ligament, which has then been divided, when the incision has been directed upwards, and together with it, Gimbernat's ligament, when the incision has been directed upwards and inwards. The result of this proceeding has been to detach Hey's ligament from its connection with Poupart's. An attempt has next been made to reduce the hernia, but ineffectually. The left index finger has then (as recommended by Mr. Luke) been passed behind Poupart's ligament from above downwards, and, after having reached a variable distance, ranging from almost immediately below the ligament to three-quarters of an inch distant from it, the nail of the finger has been arrested by some more or less dense bands; a probe-pointed bistoury carried carefully along the nail, and then drawn forwards, has divided these bands, and the hernia has gone back without any further difficulty. Now these bands have appeared to me, from the manner in which the first steps of the operation were conducted, to have been the detached upper part of the falciform edge of Burns, and, if so, identical with the structure which Hey, more than forty years ago, described as the seat of stricture in femoral hernia."

As a means of determining the seat of stricture, and of avoiding any unnecessary division of the soft parts, Mr. Ward urges attention to Mr. Luke's "strangulation test," and gives Mr. Luke's description of it from the *Medical Gazette* of 1841. It is this:—

"If the body of the hernial tumor be compressed by the hand, an impulse is communicated to all its parts below the seat of stricture; but if the neck of the hernia be grasped between the finger and thumb of the other hand, above the stricture, while such compression is made, there will not be any impulse felt. When, in the commencement of the examination, the neck of the tumor is first grasped, we may be always assured, that if an impulse is felt on compression of the tumor itself, the seat of stricture is nearer the abdomen; and by gradually withdrawing the finger and thumb in that direction, while renewed compression of the tumor is made, a point will soon be reached at which impulse ceases to be felt. The point at which impulse first ceases to be felt is the seat of stricture. In like manner, if an impulse is not felt when the neck of the tumor is first grasped, we may be equally assured that the stricture is situated nearer to the body of the hernia; and, by a like gradual approximation to it with the finger and thumb, an impulse shortly commences to be felt. The point where the im-

pulse commences to be felt is the uppermost part of the strangulated contents, which implies that the stricture is immediately above it; and, on inquiry, it will be found to correspond with the indications of an examination commenced from below."

ART. 107.—On Operations in cases of Hernia when the sac and its contents have been reduced *en masse*. By Mr. PAGET, Assistant-Surgeon to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, Sept. 31, 1853.)

Mr. Paget has recorded two cases of inguinal hernia in which the sac and intestine having been reduced *en masse* by the taxis and the symptoms of strangulation continuing, he laid open the inguinal canal and succeeded in reaching the hernial tumor, and relieving the constriction at the mouth of sac; in both cases with successful results.

The best collective evidences for the reduction *en masse* appear to be—1st, The signs of strangulation continuing, or first ensuing, after the apparent reduction of a hernia. 2d, The loss of a hernial sac, more of which, according to the history of the case, ought to be felt in or beyond the inguinal canal. 3d, A feeling of fulness at the internal ring, and of an ill-defined, firm swelling in the abdomen behind or below the ring. 4th, An amount of pain at and about the internal ring, which is quite disproportionate to that in any other part of the abdomen, as well as to the other signs of strangulated hernia. 5th, The unusual drawing up of the testicle. Mr. Paget then observes:—

"In these particulars, the cases I have related corroborate those already published, and confirm the rule that, when these signs are found coincident, we should act in the belief that the reduction *en masse* has taken place. But the cases presented two rare and deceptive features.

"1st. In each of them, the pushing back of the sac was so far incomplete, that the lower portion of it, containing fluid, remained in, and in one case projected a little beyond the inguinal canal. Feeling this portion of the sac, one might have assumed that no more had ever projected beyond the abdomen. But the cases show that we must count, among the indications of this accident, not only the complete disappearance of a hernial sac, but the marked diminution of one; that it may excite a suspicion, if we can feel, in and beyond the inguinal canal, only a much smaller hernial sac than, according to the history of the case, there should be. If, in either of these two cases, the hernia had been properly reduced, its empty sac should have been felt, not only in the inguinal canal, but along the descending portion of the spermatic cord.

"2dly. In the second case, the sac had been pushed from its connections five or six weeks before the severe strangulation ensued, and, once in the course of that time the intestine had probably been strangulated in, and returned from, the displaced sac. Such an event has not, I believe, been previously recorded; but a single occurrence of it diminishes the confidence with which we might expect that, in all these cases, there would be the history of a very recent reduction of a hernia.

"The incompleteness of the displacement of the sac, to which I just now referred, suggests a rule in operating. If, in the suspicion that a hernia has been reduced *en masse*, the inguinal canal be laid open, and no sac at all be found in it, the probability of an erroneous reduction is increased; but if, instead of no sac, one be found containing fluid, we might be apt to conclude that this is the whole sac, and that the intestine has been duly reduced from it. But the cases show that the part of the sac containing and strangulating intestine may be pushed back from the internal ring, and that another part, containing fluid, may remain in the inguinal canal: they thus establish, as a rule, that, in all such suspicious cases, we must not desist in the operation without being perfectly satisfied that all is right in the abdominal cavity, so far as it can be reached from the inguinal canal. In both the cases here related, after the exposure of part of the sac in the canal, the detection of its displaced but still constricting mouth was impossible, except by such an examination as would have been unjustifiable in an ordinary case. The sac's mouth was only just within reach of

the forefinger, and the sensation received by the outstretched finger touching the intestine in the sac was at first deceptively like to that from intestine in the abdominal cavity.

"I would add a remark on the after-treatment of strangulated hernia as illustrated by these cases.

"The abstraction of blood by nearly a hundred leeches, in the three days following the operation, in the first case, was intended against what appeared to be an active local inflammation of the peritoneum and the adjacent tissues, in consequence of the violence used in the displacement of the sac and in the operation. The giving of wine on the third day after the operation, in the second case, was dictated by the fear that a peritonitis would presently ensue, against which treatment might be of little avail.

"The effects of both these opposite treatments appeared to be good, and they indicated, as many other facts do, that there are at least two forms in which peritonitis ensues after operations for hernia. In one class of cases it appears essentially the local consequence of injury; in the other, it is also, and rather, the local indication of a general blood-disease. In the one, it is an active local disease, amenable to local treatment; in the other, it is only one part, one feature, of a constitutional disease of low type, which local treatment can scarcely affect for good.

"We may probably compare the cases of the two classes with those of phlebitis after amputations; of which, some are simple local inflammations of injured veins; others are inflammations of veins, associated with diseases of many other parts, and declaratory of diseased blood. The parallel would hold in many respects, and among them, in this, that the peritonitis or phlebitis of local origin and nature ensues very early after the operation, or is continuous (in the case of peritonitis) with that which preceded the operation; while the disease of constitutional origin, whether peritonitis or phlebitis, comes on later, and with an interval of two, three, or many more days, in which no signs of it may be detected. There are similar differences and correspondences in the earlier and the later erysipelas after operations; the former is mainly a local disease, the latter is a localized indication of a general disease; and, as in the corresponding cases of peritonitis and phlebitis, the one is a comparatively trivial, the other a very grave, disorder.

"Now, the respective indications of the earlier and the later occurrence of phlebitis and of erysipelas after operations, are, I believe, recognized by many; and the time that has elapsed between the operation and the access of the disease is often reckoned among the facts determining the plan of treatment. A similar rule should be held concerning operations for hernia. In general, if peritonitis ensue within twenty-four hours after the operation; or, if it existed before the operation, and continue, or is increased after it, it may be assumed to be chiefly a local disease, a simple inflammation of injured parts, which may be treated by local or other bleeding, by abstinence from food and stimulus, and perfect rest; or which, if it be slight, may be left to spontaneous recovery. If, on the other hand, the peritonitis first manifests itself more than twenty-four hours after the operation, it is probably an indication of a general blood-disease of some low type, for which opium and well-regulated food, or even stimulants, afford the best hope of remedy.

"I need hardly say, that this difference in the time of first appearance must not be taken as alone sufficient for the diagnosis of the two forms of peritonitis, or for guidance to practice. I believe only that it may be reckoned among the most useful indications. Neither may twenty-four hours after the operation be fixed as an exact time by which, according to their advent within or beyond it, we might class all the cases of peritonitis; it is, I believe, a fair general estimate, but nothing more. Nor must the one form of the disease be regarded as exclusively a local, or the other exclusively a constitutional malady; each is only chiefly the one or the other; and, in different cases, we may find the constitutional and the local elements of disease prevailing in various proportions."

ART. 108.—*Reduction of strangulated Inguinal Hernia, by forcible rupture of the ring.* By M. SEUTIN, Professor of Clinical Surgery in the University of Brussels.

(*Presse Méd. Belge* : and *Rév. Méd. Chir.*, June, 1854.)

The plan proposed by M. Seutin, is to introduce the finger into the inguinal canal, and break down the strangulating portion by main force. An instance of strangulated hernia in a cabman is referred to as having been reduced in this manner, and this is said to be only one of several instances of the kind which have occurred since 1849. M. Seutin is also said to have demonstrated the practicability of the operation upon the dead body in the presence of M. Lombard, of Liege, and several other surgeons.

The account given in the *Révue Medico-Chirurgicale* is very short, and it is taken from a source for which M. Seutin himself is not responsible, and hence, it is possible that M. Seutin's idea may not be fairly stated. In the meantime, however, it is to be remembered that the point of strangulation is not always at the ring, or within reach of the finger.

ART. 109.—*On the local treatment of Hemorrhoids by Nitric Acid.*
By (1) Mr. HENRY LEE, Assistant-Surgeon to King's College; and
(2) Mr. HENRY SMITH, Surgeon to the Westminster Dispensary.

1. (*Pathological and Surgical Observations*, by Mr. H. Lee. Churchill, 8vo., pp. 232.)
2. (*Medical Times and Gazette*, Aug. 19, 1854.)

1. The use of nitric acid was first proposed, in 1843, by Dr. Houston, surgeon to the City of Dublin Hospital, in two kinds of hemorrhoidal affections. The first of these is described as a sort of aneurism by anastomosis of the small vessels of the mucous membrane and sub-mucous cellular tissue: the second as of a chronic inflammatory nature, and best illustrated by comparing it to the red, villous, tender, hemorrhagic surface exhibited by the mucous membrane of the eyelids in old cases of chronic conjunctivitis.

Dr. Houston also proposed the same treatment for the removal of those dilatations of the larger veins of the bowels, which are sometimes connected with these tumors.

Acting upon this suggestion, Mr. Lee was induced to try the same treatment in other kinds of the hemorrhoids connected with a relaxed state of the mucous membrane. This was in 1848. The result of Mr. Lee's experience is to be found in an admirable essay in this work, whose title is at the commencement of this article, and to which we earnestly direct attention. Mr. Lee writes:—

“From the experience which I then had, I was led to make the following observations. The benefit derived from this plan of treatment must not be expected till the small ulcers made by the caustic begin to heal. The loose folds of mucous membrane are then drawn upon, and the whole of the mucous lining is rendered more tense. Each small cicatrix, moreover, serves as a permanent point of attachment for the relaxed membrane, and consequently the inner coat (which alone descends in such cases) is retained permanently in contact with the other coverings of the bowel.

“The degree of pain experienced in this operation depends in a great measure upon the way in which the nitric acid is applied. The sensibility of the thin skin around the anus is very great; and if the acid be allowed to come in contact with it, the degree of tingling pain is very considerable. If care be taken, on the other hand, to confine the application of the acid to the comparatively insensible mucous membrane, a slight uneasy sensation in the lower part of the abdomen is generally all that is complained of.

“In the application of nitric acid to hemorrhoidal tumors, the degree of irritation experienced will often depend upon the extent of surface involved in the operation. When, therefore, a considerable amount of the mucous membrane descends with the tumors, it is desirable to select certain portions, to which the application of the acid should be confined. The action of the acid may be

limited either by applying a small quantity at a time, or by shielding the surrounding surface with a paste made of chalk and water.

“Every portion of mucous membrane to which the acid extends should be as completely deprived of vitality as possible, since the degree of pain experienced will necessarily depend upon the remaining sensibility of the parts.

“Unless these conditions are observed, the application of nitric acid, or of any other caustic, to the mucous membrane of the rectum, may prove as serious an operation as that for which it is intended as a substitute.

“The nitric acid used in such cases should be the strongest that can be procured: that which is usually kept by chemists under the name of the strong nitric acid does not effectually destroy the surface to which it is applied; and when used, it therefore produces more pain than the strongest acid, and cannot moreover be so certainly relied upon to accomplish the intended purpose.

“The most convenient way, perhaps, of applying nitric acid, when the tumors can be protruded, is to encircle their base with an instrument which will at the same time hold them in their situation, and make sufficient pressure to prevent hemorrhage in case they should be disposed to bleed. If necessary, any portions of the hemorrhoidal tumors, or of the mucous membrane, may be removed with a pair of curved scissors, and the cut surfaces immediately wiped dry, and touched with the acid. If the application of the acid be made before any bleeding has taken place, the blood in the divided vessels will become coagulated, and the vessels permanently sealed.

“Care must be taken in performing this operation, when any portions of mucous membrane have to be excised, that the pressure completely command the hemorrhage; for, if any blood escape from the part, it will become mixed with the acid, and thus prevent it from effectually acting upon the surface to which it is applied. The instrument which is best adapted for restraining the hemorrhage under these circumstances, and for holding the prolapsed tumor in position, consists of two parallel curved plates of steel, with their internal edge slightly indented. These are connected together at their extremities, and by means of a screw or spring may be made to exert the exact degree of pressure required.*”

For the purposes of treatment, Mr. Lee divides hemorrhoids into those which bleed, and are composed of a soft vascular substance, and into those which do not bleed, and are composed of firmer tissues.

Now it is in the first kind of hemorrhoid that nitric acid is so useful. In illustration of this, many cases are related, and of these the following may serve as an example:—

CASE.—S. D., æt. 31, came under my notice in November 1850; about four months previously, she first experienced irritation and pain in the situation of the rectum after walking or riding. This was accompanied by a very uncomfortable sensation of bearing down. About a month after the first appearance of these symptoms she first had hemorrhage from the bowel. The blood passed was fluid, and came only with the motions. The quantities discharged gradually increased, and soon appeared whenever she passed her motions or water. She would occasionally, at these times, lose as much as a quarter of a pint at a time. From this cause she had become extremely weak and exsanguine.

No evident reason for this hemorrhage could be ascertained by external examination, but, on introducing the speculum into the rectum, a tumor presented itself on the right side. Immediately above this, was a transverse ulcerated fissure, from which the blood was seen to spurt across the speculum in a single continued stream. This fissure was so situated, that any descent of the hemorrhoidal tumor would necessarily draw upon and separate its edges. The tumor and the fissure above it were touched with the strong nitric acid on the 14th of November.

Nov. 22d.—She had had slight hemorrhage the second day after the operation, but since that day she had not perceived any. She was now feeling stronger and had improved in her general appearance.

* The instrument described by M. Jobert in the *Gazette des Hôpitaux* of the 1st October, 1853, is a modification of the above, a description of which was published in 1848.

Dec. 17th.—She had had no hemorrhage since the last report, and had regained her usual health. The bowels were now quite regular, and the motions passed without pain or inconvenience. This patient was so well satisfied with the result of the operation, and with the slight amount of inconvenience which she suffered that I cannot doubt but that I should have seen her again, had there subsequently been any return of the symptoms.

On the other hand, the nitric acid is not of itself sufficient in the second class of cases—cases, “in which the mucous membrane has become thickened, and the subjacent parts infiltrated with lymph, as the result of repeated attacks of inflammation; and those in which the mucous membrane from long exposure has become hardened and altered in structure. The first of these orders of cases is met with usually in the comparatively young and plethoric; the second, in patients of a languid temperament, or advanced in life. The acid, when applied in such instances, does not fairly permeate the structure of the mucous membrane; it usually removes a superficial layer only, which is soon replaced, and the diseased parts are left in much the same condition as before.”

In these cases, the plan recommended by Mr. Lee is as follows:—

“The affected parts are first made to protrude, and then embraced by a broad forceps, made upon the plan of the instrument described by me in 1848.

“The instrument consists of two parallel thin blades, with their opposed surfaces roughened, and closing by means of a spring. This may be made to exert any degree of pressure which may be required. With this instrument the prolapsed part is seized, and such a portion of it as may be deemed expedient is cut off on the side of the ‘clamp’ next to the operator with a curved knife made for the purpose. The cut surface is then touched with the strong nitric acid, or with the actual cautery. The parts are returned into their natural position, and the operation is completed. This plan is easily adapted for the removal of hemorrhoidal tumors, and the excision of portions of relaxed mucous membrane, where no hemorrhoidal tumors apparently exist. The forceps retain their hold of the base of the prolapsed part after the requisite portion is removed. The cut surface is thus prevented from either bleeding or retracting, and it is held in a convenient position for the application of the cautery or caustic. This application is as essential a part of the operation, as securing any bleeding vessels is after an operation in any other part of the body.

“It will frequently happen that the parts cannot be sufficiently protruded to be conveniently seized by the forceps which I have described. I have then performed the operation very satisfactorily in the following way: A rectum speculum has a slide upon one side which may be removed; this is made to fit accurately into grooves on each side, so that by being withdrawn to a greater or less extent, a corresponding aperture is left in the side of the instrument. When the speculum is introduced, the slide is partially withdrawn, and the instrument moved about until the tumor, or the portion of mucous membrane required to be removed, projects into it. The slide is then closed, and the tumor is firmly held between it and the rest of the instrument; the projecting portion may then be cut off within the speculum by a long narrow knife, and the cut surface touched as before with the nitric acid, or with the actual cautery. Or, in case it should be deemed advisable to remove a longitudinal portion of the mucous membrane, the operation may be varied as follows: The speculum, instead of being made single, is made double; that is, there is one speculum within another, so arranged that the outer one will revolve upon the inner. Each part has an oval aperture at its side: when these apertures correspond, a tumor, or portion of relaxed mucous membrane, will readily project into the speculum. When the part to be removed has thus passed through the corresponding apertures, the different portions of the instrument are made to revolve upon each other, and thus the aperture is diminished, until the condemned part is embraced between its opposite sides. Being thus firmly held, the operation is completed as above described.

“All the instruments which I have mentioned, are made by Mr. Matthews, of Portugal Street; and although they are very simple now that they are finished, yet a considerable amount of time and patience have been required in order to get them adapted to their intended purpose.”

This plan appears to have many advantages. The instrument effectually prevents hemorrhage, and it also lessens the pain of the operation by the numbness which is produced by its pressure. The cure is more speedy than that by the ligature, and it does not necessitate confinement to bed. There is also far less risk of purulent contamination or any such serious mischief.

2. Mr. Smith's paper is to the same effect, so far as it goes. He relates some cases, of which this is one:—

CASE.—In May last I was requested to see Mr. F., a gentleman, who had just returned from Australia, who had suffered for several years from distressing protrusion of the rectum after going to stool.

On examination, I discovered that there was a highly congested and relaxed state of the whole mucous membrane of the rectum, and just within the sphincter a vascular broad mass, which might or might not be termed a pile. The pain from prolapsus of the mucous membrane on going to stool was most excessive. In addition, there was an external hemorrhoidal excrescence attached to the verge of the anus. I consulted with the surgeon in attendance, who had not even heard of the use of nitric acid before he came to England, and it was determined to apply it freely to the whole congested and relaxed portions of the rectum.

The patient was very anxious that only one operation should be done; therefore, the very strongest acid was applied with freedom, and the external pile was cut off.

It was not necessary to apply it again. Great pain was produced by the acid, lasting some time, but when his bowels were first moved after the operation, there was not any prolapsus, and in a few days he had lost all trace of a complaint which had for years embittered his life.

ART. 110.—*On Galvanic Cautery in the treatment of Hemorrhoids.*
By Mr. RICHARD STEEL.

(*Assoc. Med. Journ.*; and *New York Journal of Medicine*, July, 1854.)

Mr. Steel communicates a very interesting case in which at his suggestion, this mode of treatment was tried by his cousin, Mr. E. Y. Steel, and found most efficacious. He writes:—

“The apparatus which we have used for igniting the coil of platinum wire has been made by myself, and consists of a modification of Wollaston's battery of a dozen pair, so contrived as to admit of being conveyed from place to place with the certainty of not deranging it; and it is set in action with ease and readiness when required. I had previously used a Grove's battery, which I had by me, but felt it desirable to arrange a battery better suited to be sent to a distance from home, and then found immediately ready for use.

“The idea of using this plan of treatment for hemorrhoids was suggested to my mind on learning the satisfactory results of the galvanic cautery, as used by Mr. Marshall, of University College Hospital, for the destruction of morbid growths, also for producing artificial contraction of mucous membrane, especially of that lining the vagina, for the cure of prolapsus uteri. Having repeatedly employed the method so suggested for removing erectile tumors, and semi-malignant growths, I was struck with the comparative painlessness of the application, and at once conceived the idea of applying it to the treatment of hemorrhoids. I was confirmed in the idea on examining a case requiring an operation, and which presented so large a mass of redundant matter, that I was anxious to avoid, if possible, inflicting the severe pain involved in the repeated use of the acid on the one hand, and the danger of hemorrhage following excision on the other. Here was a diseased mass to be destroyed, and relaxed mucous membrane, producing prolapsus, to be contracted; the loss of substance caused by the actual destruction of diseased tissue primarily, and subsequently by the separation of sloughs, secured the first indication; the contraction of the cicatrices secured the second. The ignited platinum coil being applied more or less deeply, or over a greater or less surface, will produce any amount of destruction of parts or of contraction that may be necessary. The smaller amount of pain

and of danger to the patient is such, that I shall in future use it in the treatment of this disease, in preference to any other method with which I am at present acquainted.

CASE.—I was consulted about three months ago, by a gentleman, under the following circumstances. For thirteen years he had been suffering from hemorrhoids with prolapsus, in so severe a degree as to be compelled to leave the army, which he did about seven years ago, when he placed himself under treatment in London, without obtaining relief. The malady subsequently became aggravated to the extent of incapacitating him for physical exertion of any kind, such being invariably followed by protrusion attended by extreme suffering and profuse hemorrhage. Deeming his case to be incurable, he had of late taken no other precautionary measures than those dictated by his own experience, for the purpose of alleviating in some degree the extreme suffering whereby too often his life was made a burden to him.

On examination, I found a mass, fully of the size of a cricket ball, consisting of hemorrhoidal tumors, varying in intensity of color and in degree of hardness, but all exquisitely tender to the touch. Having found by experience that the operation by ligature, however modified, was often followed by intense suffering, inducing irritative fever, whereas the application of concentrated nitric acid was always safe, certainly less painful, and frequently quite as successful, I determined upon using the latter method in the first instance.

Accordingly, on the 29th of last November, I applied the acid freely to the more prominent parts of the internal mass, avoiding the outer ring, which I had smeared with oil in the usual way. The pain thus occasioned was severe at the time, and continued for some hours, not altogether subsiding for several days, although not such as to require confinement to bed.

On December 4th, the hemorrhoidal mass somewhat lessened. A second and third application, at intervals of ten days, were followed by similar results; the hemorrhoidal tumors having sensibly yielded to the treatment, but still presenting a formidable appearance.

At this time, the suggestion of the galvanic cautery having been made to me by my cousin, Mr. Richard Steel, and he having supplied me with a battery of his own contrivance for the purpose, I determined upon resorting to it for the further treatment of the case.

On January 18th, I proceeded to touch the more prominent of the remaining tumors with the ignited coil. The pain was comparatively so trifling as to be thought insignificant; and immediately after the return of the gut, my patient walked about the house as if nothing had been done.

On February 8th, the parts which had been touched by the cautery were found to have sloughed away, leaving sulci, which will, I doubt not, on cicatrization becoming complete, have effectually promoted the contraction of all redundant mucous membrane. The cautery was a second time applied with similar results, and so effectually, that the patient can no longer protrude the hemorrhoids sufficiently to admit of external examination. He can now use any exertion, such as lifting heavy weights, without inconvenience; and, for the first time during many years, he has relief from his bowels without pain or hemorrhage. He says that the galvanic cautery is painless in comparison with the nitric acid application; and I can vouch for the fact of its efficacy, as well as for the ease with which it can be applied to any extent that may be required. In a word, I feel assured that it is on every account a most valuable, safe, and convenient application for the removal of hemorrhoidal tumors.

ART. 111.—*A new method of Diagnosis in Fistula Ani.* By M. LIMANGE.

(*Arch. Belges de Méd.*, Juil., 1854, and *Medical Times and Gazette*, Sept. 30, 1854.)

In cases of fistula ani, in which the intestinal orifice of the fistula cannot be discovered by the ordinary methods of investigation, M. Limange suggests that a small quantity of the compound tincture of iodine should be injected through the external aperture of the fistula, while the finger of the operator is retained in the rectum. A permanent stain will thus be produced on the skin of the finger, by which not only the existence of an internal orifice is established, but

a pretty correct idea is also afforded of the situation of that orifice, and its distance from the outlet of the bowel.

M. Limauge observes, that the tincture of iodine is preferable to other colored solutions that have been recommended as injections into fistulæ, because, if the rectal orifice of the fistula should happen to be extremely small, so minute a quantity of the injected fluid may penetrate into the bowel, that its presence may easily escape detection, unless a distinct and indelible stain, such as the tincture of iodine communicates, is imparted to the finger.

ART. 112.—On the differential Diagnosis of Hydrocele, and the diseases with which it may be confounded. By Mr. G. H. BUTCHER, Surgeon to Mercer's Hospital, London.

(*Dublin Quarterly Journal of Medical Science*, Feb., 1854.)

Hernia.

Begins above.
Changeable in bulk.
Engages ring.
Feeling of weakness.
Can often feel intestines, or omentum.
Testicle at the bottom.
Opaque: in child sometimes transparent.
Base of tumor above.
Flatulence, dyspepsia.

Varicocele.

Soft, like earth-worms.
Changeable, like hernia.
Ring dilated often.
Testicle distinct.
Testicle wasted.
Tumor whole length of chord.
Tumor light.

Venereal Testicle.

Both engaged generally.
Tumor very heavy.
Hard all over.
Size moderate.
No fluctuation; sometimes small quantity of fluid.
Tumor slanting.
Painful to handling.
Solid contents.
Eruption, or sore throat.

Scrofulous Testicle.

Round in form.
Never very large.
Solid.
Heavy.
Lies at the bottom of the scrotum.
Inflames in spots.
Suppurates, fungates.
Scrofula in other glands.

Fungus Hæmatodes.

Tumor irregularly hard and soft, hardness predominating in early stages.
Shape, globular generally.
Rapid in growth.
Painful.
Opaque.
Elastic.
Chord becomes hard and knobby.
Pains up loins.
Health impaired.
Fungates.

Hydrocele.

Begins below.
Unchangeable.
Ring free.
Feeling of weight.
Can feel nothing.
Testicle at back part.
Often transparent.
Base of tumor below.
Bowels not deranged.

Hydrocele.

Tense, elastic.
Unchangeable.
Ring closed.
Testicle indistinct.
Enlarged, if distinguishable.
Tumor at bottom.
Tumor heavy.

Hydrocele.

One tunica vaginalis generally.
Tumor not so heavy.
Hard only at the back part.
Often very large.
Fluctuation.

Tumor perpendicular.
Not painful.
Fluid contents.
None such necessarily.

Hydrocele.

Oval in form.
Often very large.
Fluctuating.
Light.
Grows upwards.
Never so.
Never suppurates.
Not so.

Hydrocele.

Uniformly smooth.

Oval generally.
Slow in formation.
Free from pain.
Transparent.
Fluctuating.
Chord sound.
No such pain.
Not so.
Never.

Cancer of the Testicle.

Hard, knobbed.
 Small.
 Round.
 Painful on handling.
 No fluctuation.
 Chord knobby.
 Adheres to scrotum.
 Glands in groin enlarged.
 Shooting pains.
 Fever peculiar.
 Fungates.
 Death.

Hydrocele.

Soft, smooth.
 Large.
 Oval.
 Not so.
 Fluctuation.
 Chord soft.
 Never.
 Never enlarged.
 Never (in loins).
 No fever.
 Never.
 Never.

In hydro-sarcocele the testicle will be found hard, painful, irregular, large at the back part, with some fluctuation in front. Testicle distinguished in hydro-sarcocele, not so in hydrocele generally. Shooting pains on handling the former, not so in the latter. If obscure, the tumor may be tapped, and then the enlargement of the testis will be discovered, and the water small in proportion to the size of the tumor.

ART. 113.—Case of Urine escaping through an unusual Channel.

By Dr. J. MACPHERSON.

(*Indian Annals of Medical Science*, April, 1854.)

The precise nature of this case is somewhat obscure. The channel for the urine appears to have been formed by an abscess, first communicating with the bladder and subsequently opening upon the outside of the thigh; but Dr. Macpherson is inclined to think that infiltration of urine and sloughing would have been caused if this had been the explanation. The case must speak for itself. Dr. Macpherson writes:—

CASE.—Mr. P. M., a native of Devonshire, æt. 31 (who had been treated by me before for hæmoptysis, in August, 1848; when he had difficulty in making water, which had been gradually coming on, although a catheter was readily introduced), was admitted into the General Hospital at Calcutta on the 5th of March, 1850.

He was then of phthisical aspect, and complained of pain and swelling in his left groin, where several small glands were enlarged; on the 18th the report is—“Glands continue enlarged, there is much pain in his thigh, he keeps the knee constantly flexed, and cannot stand.” On the 24th—“Has been suffering from diarrhœa, and continues very weak, though there is no positive indication of any local abscess or other mischief.”

April 1.—“Has difficulty in making water, which has been slowly coming on for some days. There is no difficulty in passing a full-sized catheter, and his urine deposits an immense purulent sediment.”

No particular change took place this month; the pain in the thigh continued. The urine was always loaded with pus, but a troublesome cough, with copious expectoration, came on, and he gradually lost strength; he also had constant pain in the loins. In May he continued in exactly the same state, and being tired of so long a stay in hospital without any benefit, was discharged on the last day of the month.

I attended him at his own house during the month of June. All the symptoms continued the same, the patient got gradually weaker, and as I prognosticated a fatal result, he begged to be allowed to try mesmerism, of which he had heard wonders. He was told that in his state it could do him neither harm nor good, but that I had no objection to his trying it, and accordingly he sent to the Mesmeric Hospital, and got a native assistant from it to come and operate on him.

In this way the better part of a month was spent. About the beginning of August I was sent for again, and found him in his former condition, but miserably reduced. The mesmerism, he said, had disappointed him, and had not even

produced any soothing effect. Early in August there was more swelling in the thigh, and it began to be localized over the trochanter, his mouth got aphthous, the cough again became more troublesome, the urine continued purulent, and there was some pain in his loins.

About the end of August, when the nature of the swelling over the trochanter was apparent, an opening was made, and there was a copious discharge of healthy matter; a probe could be introduced nearly its whole length in almost every direction from the opening, but no bone was exposed. From that moment the urine became clear. The day after this he declared that urine had proceeded from the opening. I was somewhat incredulous, but was convinced by seeing it flow in a stream. Fully one-half of his urine escaped through this novel channel.

On September 16th he was, though improving in general health, re-admitted into hospital. The urine had then almost ceased to flow through the fistula, but there was more swelling about the hip, and the left foot was also swollen and cedematous.

From this time his health gradually improved. On November 4th, the report is—"the fistula over the trochanter has been closed for a fortnight; his urine is clear; cough gone, and he is gradually regaining his strength." He was discharged shortly after.

There is nothing of interest in the treatment of the case which, in ignorance of its real nature, was simply palliative. The cure was effected by opening the abscess.

I have inquired into the subsequent history of this very curious case, and the following is an extract of a letter from the patient from the Mofussil, dated May 24th, 1853: "My constitution still remains firm. I take mounted exercise daily, and often ride 24 miles per day. My cough has never troubled me since I have been in the Mofussil. My water is clear and free, particularly so since the last 12 months. I have felt no pain in my loins. I have had neither swelling nor uneasiness in the seat of the former abscess. I have occasionally felt a slight stiffness in the left leg, which never lasts more than 24 hours. These last seven months I have been able to give the leg a fair trial, having been obliged to be a great deal on foot. My appetite is always good."

ART. 114.—*On the operation of opening the membranous portion of the Urethra in retention of Urine from enlarged or diseased Prostate.* By Dr. LAURIE, Professor of Surgery in the University of Glasgow.

(*Glasgow Med. Journal*, Oct., 1854.)

Practical writers in describing the methods of reaching the bladder in cases of impossible catheterism from diseased prostate, allude to two methods only—puncture above the pubes, and forced catheterism through the prostate gland. "Both methods," writes Dr. Laurie, "are objectionable: the first is almost always a fatal operation, and the second sometimes causes dangerous hemorrhage, or may condemn the patient to the uncertain use of the catheter for the rest of his life.* Besides which, it is at times impossible, as happened in a case in the infirmary here several years ago, in which every catheter tried bent in the forcible attempts made to thrust it into the bladder.

"So far as I know, no proposal to puncture through the perineum in this class of cases has yet been made. Sir B. Brödie† says, 'it will be of no service here . . . to make an opening into the urethra beneath the pubes.' With all deference, this is the very operation which will be of service—it is one which I have taught for many years in my lectures, and which it is the object of this notice to recommend to my professional brethren. I shall describe the operation, and add a case in which it was performed.

"The instruments required are, a common curved or rectangular lithotomy staff, a sharp-pointed bistoury or lithotomy knife, and a straight metal or elastic catheter. Before Dr. A. Buchanan invented his rectangular staff, I used the

* Sir B. Brödie on the Urinary Organs, p. 180.

† Ibid., p. 149.

common curved staff, grooved on its under surface; but now I greatly prefer the former, taking care that the under limb of the instrument is not too long.

"The patient being placed and tied as for lithotomy, the staff is introduced and held as for lithotomy, i.e. pushed down upon the rectum, and the angle made to project towards the perineum. The point of the staff ought merely to reach the apex of the gland, or pass about half an inch into it. Hence the necessity for having the under portion of the staff short. The urethra is now to be opened by thrusting the knife into the groove of the staff, not deeper than merely to make sure that the canal has been opened, and, immediately withdrawing it, making an incision just large enough to admit the finger. The finger being placed in the wound, a straight metallic catheter is introduced into the urethra, and lodged in its membranous and pervious prostatic portions. The staff is now withdrawn, and we have a straight catheter in a short straight canal, which a little gentle manipulation enables us to lodge in the bladder and relieve our patient. As it is of importance to have a thorough command of the catheter, I use one twelve inches long, slightly curved, and perforated at the point. The slight curve enables us to glide it under the arch of the pubes, and over a projecting third lobe, while the perforation at the point allows us to withdraw it over the probed wire, and to lodge and retain in its place a short elastic tube. The following will show that the above proposal is not merely theoretical."

CASE.—Some weeks ago I was asked to see, in consultation, a gentleman upwards of eighty, and found him laboring under retention of urine of several hours' continuance. Before my arrival, a common-sized catheter seemed to reach the bladder, but gave vent to blood only. Not having a prostatic catheter with me, and urgent engagements calling me elsewhere, I was obliged to defer farther attempts till the evening, when I completely failed to empty the bladder. As it was now late, and the patient was a little way out of town, it was agreed that I should return at 6 in the morning, and, if possible, reach the bladder by incision. I took Dr A. Buchanan with me, who tried the prostatic and his compound catheter without success. I immediately performed the operation as above described, and with the utmost ease, and by the simplest possible operation, drew off a large quantity of bloody urine. The relief was great, but only temporary—the old gentleman sank, and died in about twenty-four hours.

Want of success in this case does not militate against the operation. Everything was against it—the great age of the patient, the previous repeated attempts to introduce catheters, the loss of blood from the urethra and prostate, and exhaustion, made recovery all but impossible. In similar cases let careful, but not too frequent, attempts be made to pass the prostatic catheter, and if these fail, let the urethra be opened *at once* in the manner recommended, and I have no fear of the result.

ART. 115.—On "*Mucous Gleet*." By Mr. MILTON.

(*The Lancet*, April 20, 1854.)

In these remarks Mr. Milton's object is to show that "*Mucous Gleet*," a gleet of the prostate and seminal vesicles, is not a form of spermatorrhœa. He says, "Mr Hunter, the Newton of medicine, whose true merits, to my thinking, even overshadow those of the giant of the physical sciences, says: 'Diseases of the *vesiculæ seminales* are very familiarly talked about, but I never saw one. In cases of very considerable induration of the prostate gland and bladder, where the surrounding parts have become very much affected, I have seen these bags also involved in the general disease, but I never saw a case where they appeared to be primarily affected.'*" So far as I can learn, all other trustworthy observations confirm this view. I have never heard of nor seen a case in which disease of the seminal vesicles alone was detected; in a few rare instances they become mechanically involved by the spread of the destructive action, but they generally remain free in the most extensive disease, either of the urinary or generative organs.†

* On the Venereal, p. 263.

† Mr. Bransby Cooper says, in the 43d volume of the *Medical Gazette*: "The *vesiculæ seminales*

"The principal argument made use of to prove that the seminal vesicles are the receptacles of the semen is the presence of spermatozoa or zoosperms in them. M. Lallemand, on examining thirty-three bodies, found spermatozoa in the seminal vesicles of thirty of them; but only in the testicles of two, one of whom had died from a fall, the other of gastro-enteritis, which he thinks would go to show that these animalculæ are formed in the testes, and then pass into the seminal vesicles. The next argument is, that small, brilliant, granular bodies are found in the urine of spermatorrhœa patients; that they are met with in the masses of mucus squeezed out by these patients after going to stool; and as they are found in the seminal vesicles, *of course* these are the receptacles of semen. These are also met with at all times in the semen of healthy men, and in great abundance in that of birds just before the testes become ripe.* The third is, that spermatozoa are wanting or few in the organs of castrated persons.

"Mr. Pritchard† says: 'The molecular motions of Dr. R. Brown—viz., those seen under a deep magnifier in a drop of water, in which finely divided gamboge or other organic substances have been triturated; these motions have been compared with the spermatozoa of animals and plants, *which are now considered as physical motions only.*' Here, then, we have the alpha and omega of scepticism and credulity; the one elevating these little cells—for they are nothing more—into the essential part of the most important of all secretions, the other viewing them as *a mere appearance*, produced, I presume, by causes acting from without.

"In cases where the generative power seemed quite lost, the testes having secreted no semen for a long time, I have found the vesicles containing their usual fluid. Among other observations, I may mention that last year I dissected with great care the generative organs of a man who died in St. Luke's Workhouse at the age of 85. The testicles had long performed no function at such an advanced age; they were very pale and somewhat wasted; the vas deferens was permeable, but very small, and its walls rigid; but I could observe no difference in the appearance and contents of the seminal vesicles from what I had noticed in young people.

"It is asserted that the discharge which takes place in one form of gleet—viz., that of a thick mucus after going to stool or passing urine, is semen; that it comes in great part from the seminal vesicles; and that the disease is consequently a form of spermatorrhœa. Speaking of this view, Mr. Hunter says: 'First we may observe the discharge in question is not of the same color with the semen, and is exactly of the color of the mucus of the prostatic gland and of these bags (the seminal vesicles). It is not of the same smell, and indeed it has hardly any smell at all. The quantity evacuated at one time is often much more considerable than the evacuation of semen even is, and it happens more frequently than it could ever do were the discharge semen. It is a disease which often attacks old men, where one could hardly suppose much semen to be secreted; and we find that those who are affected with this disease are no more deficient in the secretion and evacuation of the semen in the natural way than before they had the disease. If the mind be at ease, this will take place immediately after a discharge of semen, as well as before, which could not be the case were it semen. Further, if those that labor under this complaint are not connected with women, they are as subject to nocturnal discharges from the imagination as persons who are perfectly sound.'

"This close and comprehensive reasoning shows the depth and grasp of Hunter's clear, broad mind; and it is only surprising to me that the tissue of errors stated by M. Lallemand on this subject should have been admitted, after the truth had been set on so secure a basis by Mr. Hunter. But then we are told this substance has the peculiar smell of semen when rubbed between the fingers. Unfortunately for this part of the argument, it happens that the true

are but rarely attacked by disease, but they have been found after death filled by scrofulous deposits of the cheesy matter so frequently met with in different parts of the body in the strumous diathesis; but where this condition exists, *there are no symptoms developed during life indicative of the change that has occurred.* This, however, probably arises from so little being known of the true functions of the organ."

* See a paper read by Mr. Gulliver at the Zoological Society, July 26, 1842.

† A History of Infusorial Animalcules, 1852.

semen has no smell! The semen, *when ejaculated*, has a peculiar odor, *but then it is mixed with the secretions of the vesiculæ seminales, the prostate, and Cowper's glands.**

"Of one thing I am quite sure, persons subject to both kinds of discharge have no sensation when this mucus or vesicular gleet, as I shall henceforth take the liberty of calling it—is passing away; except that of a bulky body going along the urethra, and yet when they have emissions are conscious of the usual sensation. This gleet may occur without seminal emissions, these without it; when both co-exist, one may be cured quite independent of the other. The microscope, it is said, gives proof that it is semen by making visible the spermatozoa; these cells, however, are found in the vas deferens, and it is possible some few may be ejaculated at the same time the vesiculæ seminales are emptied."

ART. 116.—*On certain primary Venereal Affections.* By Mr. ACTON.

(*The Lancet*, Oct. 14, 1854.)

The following remarks upon gonorrhœa, gleet, and swelled testicle, occur in a sketch of the present condition and treatment of diseases of the generative and urinary organs in Paris and London comparatively.

Gonorrhœa.

"It is to be regretted, but still the conscientious surgeon is obliged to admit the fact, that notwithstanding all the improvements that have taken place in the treatment of diseases of the urinary and generative system during the last few years, little progress has been made in the cure of gonorrhœa. It is true that we have in this the nineteenth century a better knowledge than we before possessed of the pathology of the disease, and we have expunged many a vulgar error which was entertained about the complaint; but as to the discovery of a certain rapid cure, we are as far distant from it as ever, and perhaps it is only with a reputation such as Ricord's, that a teacher dare make the acknowledgment that, after performing various experiments during a long course of years, no certain plan of cure has been discovered. This, however, is not so surprising to the old practitioner as it is to the tyro, who does not consider the situation the discharge comes from, the frequency with which the disease occurs, the liability of relapse, together with the little attention a patient will pay to the complaint; but, above all, that the urine, loaded with all sorts of stimulating substances, must necessarily pass over the inflamed surfaces many times in the twenty-four hours; and it would almost appear, as if gonorrhœa would ever continue to be the *opprobrium medicorum* and the pest of the patient, notwithstanding all the science bestowed upon it. In saying this, however, I would not be understood to mean that gonorrhœa should last an indefinite length of time; far from it, for in 19-20ths of the cases the affection is to be cured readily and easily in persons who will take ordinary precautions; but every now and then cases occur which linger on many weeks, and yield at last to change of air or abstinence from all treatment, the disease apparently wearing itself out.

"During the last few years, M. Ricord has been gradually relinquishing the employment of caustic injections in the treatment of this complaint. He still thinks that in many cases this is the treatment attended with the most certain success; but every now and then instances occur in which the pain is very severe, the inflammation runs high, and then, instead of a cure being obtained, the disease relapses into a chronic state, which resists all our means of cure; in addition to this, the patient requires a great deal of watching, more than a surgeon in full practice is able to devote to each individual; so that, as I mentioned above, Ricord now employs caustic injections very rarely, and prefers prescribing capsules, and the following injection: Sulphate of zinc, acetate of lead, of each fifteen grains; tincture of catechu, one drachm; Sydenham's laudanum, one drachm; rose water, six ounces and a half. My own practice in London fully bears out this experience, and it is only in old rebellious cases of gleet, in

* Kölliker's Manual of Human Histology.

spermatorrhœa, and in chronic affections of the bladder, that I now employ nitrate of silver injections: but in these cases the judicious employment of caustic is of the greatest value, and will at once effect a cure when all other means fail; still, even in these cases, the remedy must be employed with care, otherwise ill consequences will arise.

"In the subacute stages of gonorrhœa, when there is no scalding, but a good deal of discharge, I have found the solution of lead answer best in London, together with the copaiba capsules, not taken in large numbers, but at repeated intervals, so as to charge the urine constantly with the essential oil; but I still (as in the last edition of my book) continue to insist that gonorrhœa will rarely be rapidly cured, unless the surgeon takes the precaution to show the patient how to use his syringe, and see that the instrument be properly made. It is worthy of note, that the time of year and the damp weather have a great influence in retarding a cure."

Gleet.

"Many of my readers, will, I am sure, be glad to hear a few particulars on the treatment which has proved most successful in this obstinate affection. It is not my intention to enter into the various pathological changes chronic discharges from the urethra depend upon, or the indications which should be followed out; suffice it for the few lines I can devote to the subject, to state, that in the more obstinate instances the surgeon meets with, Ricord now strongly recommends the employment of bougies of metal.

"These instruments were brought under the notice of the profession by M. Beniqué, and are of various sizes, each number being a little larger than the other; and although employed by their inventor for the treatment of stricture, are now found very useful in old-standing gleet, where we may suppose the canal has undergone some thickening. The employment of these graduated bougies is then one of the remedies I should recommend, gradually increasing the size; and Ricord's experience seems to bear out the strong recommendations which I gave in the last edition of my work '*On Diseases of the Urinary Organs*,' p. 119, to employ dilatation, accompanied with injections, in the treatment of gleet.

"Since the publication of my last edition, I have experimented largely with counter-irritation, and I think my success deserves a few moments' consideration. In addition to the means above stated, I am in the habit of recommending my patients to paint the under surface of the urethra with tincture of iodine every night, as well as applying the liquid to the perineum, so as to produce a slight peeling off of the skin. The remedy is then to be left off, and repeated when the skin has regained its cuticle. In the more chronic cases, I employ a solution of cantharides dissolved in chloroform,* with which I paint the skin well in the situation mentioned above. The chloroform evaporates, leaving the cantharidine *in situ*."

Swelled Testicle.

"Compression of the testis, by means of strapping, has now been nearly given up by M. Ricord, in his hospital; it is, he still admits, an excellent remedy when well applied, but a patient should be seen, in the early stages, twice a day, and the strapping re-applied if necessary. Without watching, this treatment is sometimes accompanied with disagreeable consequences, which aggravate the complaint, at least the French professor thinks so; but in London, in private practice, I have every reason to be satisfied with the treatment, which shortens the duration of the disease very much, and dispenses with the usual inconveniences attending these cases. M. Ricord places his principal dependence upon leeches, mercurial ointment, and plaster, and, above all, aperient salts, every morning. In this last recommendation, I fully agree."

* This may be procured at Messrs. Bells', Oxford Street.

(C) CONCERNING THE UPPER EXTREMITY.

ART. 117.—*On Dislocation forwards of the Upper Extremity of the Radius.* By Mr. TAGERT, Senior Surgeon to Mercer's Hospital.

(*Dublin Quarterly Journal of Medicine*, May, 1854.)

Dislocation forwards of the upper extremity of the radius is an accident of rare occurrence, often difficult to diagnose, and sometimes foiling the best-directed efforts to reduce it even when recent, Cooper, Cline, and other able surgeons, having failed in their attempts; and in some instances where reduction has been accomplished, it has been found impracticable to prevent a recurrence of the displacement; and further, there are so many points in relation to this injury upon which practical surgeons differ, and which can only be cleared up by an accumulated record of cases, that I am induced to give an example of a dislocation forwards of the head of this bone, lately under my care in Mercer's Hospital, which was successfully and permanently reduced.

CASE.—John Gahan, æt. 38, was admitted into hospital on the 21st of November, 1853, having sustained an injury of the left elbow-joint a few hours previously. He states, that while driving a hackney car, with a passenger and luggage, to one of the railways, his left arm was placed inside a strap, which secured a heavy trunk that he was trying to keep steady; the trunk tilted from its place, dragging him from his seat, and, while endeavoring to save himself from falling, his arm was violently wrenched and he suffered extreme pain. On the evening of his admission, powerful, persistent, but ineffectual efforts were made to reduce it by forcibly bending the forearm over the knee placed in the flexure of the joint; and also by strong and continued extension by traction from the hand, and concentrated pressure upon the head of the radius.

He came under my charge on the following morning. I found his forearm slightly flexed and pronated; I could with difficulty bend it to a right angle: further flexure was impossible, a sudden check being given in the attempt. I could not straighten it fully; the efforts to extend it caused him much pain; the head of the radius was absent from its natural position beneath the outer condyle of the humerus; on making pressure at this point, the thumb sank into a yielding hollow; the motion of pronation and supination could be performed for him; the latter movement was somewhat restricted, and increased his pain; the head of the radius could not be felt in its new position, its depth and thick coverings in a well-developed muscular arm obscuring it. The natural configuration of the limb was not altered except from some slight swelling.

With the judicious and effectual aid of my able colleague, Mr. Butcher, the bone was replaced in the following manner: The patient was placed in a sitting posture, the trunk being fixed. A handle of a sweeping brush, with a towel wrapped round its centre, was placed in the flexure of the forearm, and maintained in this position by grasping it firmly above and below the elbow-joint. Mr. Butcher with one hand seized hold of that of the patient, and bent the forearm round the brush handle, which was forcibly pulled in an opposite direction, while with the thumb of the other hand he pressed firmly on the upper end of the radius, pushing it towards its natural position, at the same time supinating the forearm and abducting the hand; after employing considerable force in these movements, the bone was reduced with a prolonged creaking or tearing sound, audible by the class of pupils. The man was conscious of the reduction, exclaiming that it was in, and expressed himself at once relieved from pain. The forearm could be fully bent, and the patient's hand placed upon his left shoulder; the head of the radius could now be felt in its natural position.

The forearm was next flexed to a right angle, and midway between pronation and supination; an angular splint well padded was placed on the inner aspect of the arm and forearm, and firmly secured by carefully applied bandages; a sling completed the apparatus; the splint was kept on for a period of six weeks, rarely requiring readjustment; on removing the retentive apparatus, the functions of the arm were perfect, and the patient pursued his ordinary avocation.

Much difference of opinion exists among authors and practical surgeons, in reference to the comparative frequency of the displacement of the head of the radius backwards or forwards, and some with considerable experience have never met with either accident.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 118.—*The risks of Amputations of the Lower Extremities.* By Dr. STONE, Surgeon to the Bellevue Hospital.

(*New York Journal of Medicine*, Sept., 1854.)

In a paper on the amputations of the lower extremities which have recently occurred in the Bellevue Hospital, Dr. Stone's principal object is to furnish some additional means for solving the question of how far amputation is to be recommended as a means of cure. His summary is as follows:—

Summary of Amputations of the Thigh.

1. Secondary,	Ostitis, with necrosis,	Recovered.
2. Primary,	Leg crushed by heavy timber,	Died.
3. Secondary,	Chronic Disease, caries of patella,	Died.
4. Secondary,	Chronic disease of knee,	Recovered.
5. Secondary,	" " "	Recovered.
6. Secondary,	Gangrene of leg; clot in iliac artery,	Died.
7. Secondary,	Chronic disease of knee,	Recovered.
8. Primary,	Fract. of both thighs; knee-joint opened,	Died.
9. Secondary,	Fungus hæmatodes,	Recovered.
10. Secondary,	Caries of patella, acute synovitis, &c.,	Recovered.

None survived the primary amputations, and one-fourth of the secondary died. The mortality, in all amputations of the thigh, was 40 per cent.

Summary of Amputations of the Leg.

1. Secondary,	Chronic disease of the tarsus ostitis,	Recovered.
2. Primary,	Injury in blasting,	Died.
3. Primary,	Railroad injury,	Died.
4. Primary,	" " "	Recovered.
5. Primary,	" " "	Died.

"Only one survived after primary amputation of the leg, and that with difficulty, and after a tedious convalescence. We find, on taking both tables, that, out of six primary amputations of the lower extremities, only one lived, which is a mortality of 83½ per cent., and that the mortality in the secondary amputations was 22 per cent. On combining both primary and secondary, we have a mortality of 7 in 15, equal to 46½ per cent., in all amputations of the lower extremities.

"We had, for some time suspected that amputation, in all cases, was a formidable alternative; and in view of the awful mortality, after primary amputations, we are attempted to ask if it would not be wise to refuse to operate in all cases of severe injury?"

ART. 119.—*On the use of Quinia and Opium in Hip-disease.* By Dr. NELSON NIVISON, of Tompkins County, N. Y.

(*New York Journal of Medicine*, May, 1854.)

Dr. Nivison relates three cases in illustration of this treatment, and—as in forming an opinion upon its merits, everything depends upon the correctness of his diagnosis—we give the cases as he relates them. For our own part, we must say that the cases do not appear to have been true cases of incipient hip-disease, which were arrested and cured by the treatment. Dr. Nivison argues that there is nothing inconsistent in the expectation that quinia should be beneficial under these circumstances, seeing that tonics have been proved to be bene-

ficial in some kinds of low inflammation. He also argues that opium is imperatively demanded by the pain and muscular rigidity.

The cases are as follows:—

CASE 1.—The first case that I shall notice was a child two and a half years old. I was called Oct. 18th, 1851. I got from the mother the following history: The child had usually been healthy till about six weeks previous to my visit, when it was attacked with a pretty severe fever of a remittent type, which lasted about ten days. A physician was called, who administered some mild remedies, under the use of which the febrile symptoms gradually subsided. The child, however, did not improve in appearance, strength, or appetite, but seemed rather to decline. In a few days after the more violent febrile symptoms had subsided, the child began to manifest symptoms of inability to walk or even stand, would fall frequently and cry violently as if in severe pain; the sleep was disturbed, and the patient became rapidly emaciated. About this time, the left leg was observed to be somewhat bent at the knee, a day or two later at the hip, with considerable rigidity of the muscles. It would not allow the limb to be moved if possible to prevent it; every accidental movement was productive of much pain. At this stage of the matter, the mother had occasion to spend a couple of weeks from home; and, hoping the child might be benefited by the change, she took it with her. The symptoms grew worse. A physician was called. He pronounced it a case of hip-disease, and treated it accordingly; precisely what the treatment had been, beyond the application of a blister and some Dover's powders, I could not ascertain. Under the treatment, however, there was considerable amelioration of the symptoms. The child was brought home, and the treatment discontinued. In a few days all the unfavorable symptoms returned, with increased severity, and continued steadily to grow worse to the time of my visit. I found the little patient much emaciated, with a pallid countenance, a hectic flush on the cheek, and, although at the time sleeping somewhat quietly in the cradle, I noticed those convulsive twitchings, and distortions of the features, that told but too plainly of the violence already done to the integrity of the nervous system. Pulse small, quick, frequent, and somewhat irregular; the left thigh was drawn to nearly a right angle with the body, and the leg was flexible on the thigh. The whole limb was in a state of abduction; this, with a certain amount of apparent shortening, gave the limb somewhat the appearance of a dislocation, with the head of the femur on the dorsum ilii. The slightest movement of the limb awoke the patient, and his protracted cries were indicative of extreme anguish. I attempted to examine the limb, with a view to determine its true condition, but every movement so manifestly aggravated the sufferings of the little patient, that I was constrained for the time being to abandon it; but from the history and the appearances before me, I saw no reason to doubt the correctness of the diagnosis of the last medical attendant. The parents appeared healthy, but both acknowledged the strumous habit in their ancestry and family kindred.

In summing up the matter, the case appeared to be the sequel of an idiopathic fever, which appeared not to have been very thoroughly treated or satisfactorily overcome. While it existed in this form, it could, doubtless, have been completely removed by a liberal use of the sulphate of quinia. Now, if this diseased action is but a different manifestation of the same morbid agency, and no structural disorganization has yet occurred, why should it not now yield to the same remedy? True, a very considerable amount of inflammatory action, with its attendant fever, still exists, and furthermore, the much respected authority of precedent would lend but little aid; I nevertheless resolved to give it a trial. I ordered a grain of quinia with one-eighth of a grain of morphia to be given every six hours, with additional doses of a solution of morphia, if the pain is not entirely quieted and rest procured by the powders. A stimulating liniment was ordered to be rubbed on the affected part twice a day.

Oct. 20th.—The child has been much more comfortable; rested well, is less feverish, appetite slightly improved. At this visit, I was able to make a tolerably satisfactory examination of the affected limb. Considerable motion can be made at the knee, but no movement of the hip-joint can be borne. In whatever position the child is placed, the thigh remains at the same angle with the body. Continue the treatment.

Oct. 23d.—The symptoms all materially improved; no fever, appetite good, sleeps well, will allow slight motion of the hip-joint without much complaining. In addition to the former treatment, give iodide of potassium, and apply a blister to the hip.

Oct. 26th.—Continues to improve. Blister drew well, but produced considerable disturbance of the nervous system, which was soon quieted by additional doses of the morphia. Continue treatment.

Oct. 28th.—Still improving. Stomach and bowels, somewhat irritable. Omit the iodide of potassium. Ordered quinia, gr. xvi, sulph. acid dil. gtt. x, water, ℥iv, m. A teaspoonful four times a day; an occasional dose of laudanum if necessary, to procure rest.

Nov. 4th.—Improving rapidly. The limb can be brought nearly in a right line with the body. Occasionally puts the foot to the floor and makes some rather unsuccessful attempts to walk. Continue the solution of quinia.

Nov. 11th.—The limb can be moved in almost any direction without pain. The patient can walk about the room; appetite continues good; he is allowed a generous diet, and is gaining flesh. Nothing of special interest occurred after this. The solution of quinia was continued a week or two longer, and the patient was dismissed cured.

CASE 2 was a boy 12 years old. In the latter part of May, 1853, he was thrown from a wagon, by which accident he received considerable injury of the right leg, which appeared to be mostly in the vicinity of the ankle-joint; pain was complained of along the course of the fibula, and the parts were considerably swollen. But the affair was regarded as trifling, and, aside from the application of severe stimulating embrocations, and advising that the parts be kept at rest, nothing was done.

I heard nothing more of the patient till the 18th of June following, when, I was called to visit him. I was told that he had suffered considerable pain in the limb most of the time since the injury; he had been able to walk but little. The swelling had nearly subsided, and the pain was now mostly in the vicinity of the knee; there had been more or less fever every day, generally worse on alternate days; he had passed restless nights, lost his appetite and was losing flesh, and becoming peevish and fretful. He had a pallid countenance, a frequent pulse, and a furred tongue. The bowels being confined, I ordered a laxative, and agreed to see the boy the following day.

June 19th.—Was called early this morning to see the boy; found him complaining of excruciating pain in the knee and hip. I learned that he retired last night apparently as well as usual, and slept quietly during the early part of the night, but towards morning suddenly awoke, complaining of this intense pain, which had been unintermitting up to the time of my visit. The leg is now rigidly flexed upon the thigh, and the thigh on the pelvis, and the whole limb in a state of *abduction*, or drawn from the other. This position, I believe, is rather unusual in hip-joint disease. I notice, however, that Prof. March, of Albany, in his very valuable paper, read before the American Medical Association, mentions a case where the position of the parts was precisely similar. The boy refers the pain principally to the *knee*, and believes this joint to be the seat of the difficulty; fomentations have been freely applied to this part without relief. I found, however, that *motion* of this joint is less painful than of the hip. This directed my attention to that joint, and further investigation satisfied me that here was the real difficulty. The fact that the *pain* was mostly in the knee, rather confirmed this view of the case than otherwise, and again the previous constitutional disturbance had been altogether disproportioned to the slight injury in the vicinity of the ankle, and furthermore an inflammation of the hip-joint usually comes on rather insidiously. This, in connection with the fact that the boy was evidently of a strumous habit, could leave but little doubt that we had to deal with a case of hip-disease.

Being firmly impressed with the conviction that, in the former case, the sulphate of quinia, in combination with the opiates, were the chief agents in removing the morbid condition of the system, upon which this species of diseased action usually depends, I determined to test it still farther in this case. I therefore directed two grains of quinia, with a grain and a half of opium, to be

given immediately, and to be repeated every six hours, and a quarter of a grain of morphia every hour till the pain is subdued.

June 20th.—The boy is more quiet, has taken the powders regularly, but was obliged in addition to take the morphia very freely. The limb remains in the same position, will admit of some motion at the knee, but the least movement of the hip-joint is exceedingly painful; considerable tenderness is manifest on pressure about the hip. Continue the powders. Rub the parts twice a day with comp. camph. liniment.

June 22d.—Yesterday the boy had an uncomfortable day, several paroxysms of pain occurred that were represented as almost intolerable; used the morphia very freely; slept a part of the last night rather quietly, but if he chanced to make the least movement of the affected joint, the pain produced thereby awoke him instantly, and he was usually unable to sleep again till the morphia had been repeated. He is comparatively comfortable to-day, the knee-joint can be moved without pain, but can bear no motion at the hip; countenance more animated, no fever, tongue cleaner, appetite somewhat improved. Owing to the extreme pain produced by change of position, the bowels have not been opened in several days. Continue the powders; give pil. hydr. gr. viii., at bedtime; follow with castor-oil in the morning.

June 24th.—The boy is better. When perfectly at rest complains of no pain whatever. Had one or two pretty severe paroxysms of pain yesterday; was obliged to use the morphia; with that exception, the powders of quinia and opium have kept him comfortable; will allow a limited motion of the hip-joint. The tenderness about the joint is diminishing. The knee is no longer painful, appetite good, tongue nearly clean. Continue the powders, apply a blister to the hip, and allow a generous diet.

June 27th.—Continues rapidly to improve; considerable freedom of motion is allowed at the hip; succeeded in bringing the affected limb nearly *parallel* to the other, without producing much pain. There is marked improvement of the general health; the morphia has been used but two or three times since last visit. Continue the quinia and opium.

June 29th.—Still improving. The limb can be restored to its natural position, and moved in almost any direction, with but trifling pain. Reduce the powders to R, quin., opii āā, gr. j. m., one every six hours.

July 4th.—The boy can walk about the room; but complains occasionally of an obscure pain in the hip-joint. Take a grain of quinia three times a day, with an occasional pill of opium if necessary.

July 10th.—The patient is apparently well; ordered some vegetable bitters, and discharged him. He has enjoyed good health up to the present time.

CASE 3 occurred in August, 1853; the patient was a little girl about 6 years old. At my first visit, the mother informed me, that about two weeks previous, in climbing a fence, and endeavoring to reach the fruit of a cherry tree, she fell to the ground, striking upon the left hip; but beyond a slight limping, and occasionally a little pain, nothing of special importance occurred till the time I was called. I then found her complaining of excruciating pain in the left knee and hip; this pain had come on suddenly, and at first in paroxysms, but had now become constant; at each paroxysm the limb was drawn more and more from its normal position, and when I first saw it, it had assumed a position corresponding precisely with that of the last-mentioned case. The mother said she had always been a "weakly" child, and from appearances, I was satisfied that she was of the strumous habit. The subsequent history and treatment of this case correspond so nearly with the foregoing case, that I deem it unnecessary to give the details. The only essential difference in the treatment was that this case was treated *exclusively* with quinia and opium; no counter-irritation or local treatment of any kind was made use of. The case terminated in health in about three weeks.

ART. 120.—*Case of Excision of the head of the Femur.* By Dr. PARKMAN.*(American Quarterly Journal of Med. Science, April, 1854.)*

This case is taken from the records of the Boston Society of Medical Improvement. The name of the hospital in which it occurred is not stated.

CASE.—A boy, æt. 12, entered the hospital May 9, presenting the usual symptoms of hip-disease of the right side, in a somewhat advanced form, and which was said to have existed six months; its probable existence was, however, longer. During the summer, the symptoms became more and more aggravated, and large abscesses opened in the groin, on the inside of the thigh, and on the nates; and the limb was very much retracted by the distortion of the pelvis, from the patient's necessary position on the left side, and the impossibility of employing extension, or similar means. Hectic symptoms also supervened, and at two periods he seemed likely to be carried off by a profuse diarrhœa. Under these circumstances, it was decided to lay open the abscess on the nates, which had now dissected the skin from below the trochanter, almost to the crest of the ilium, and to make an examination of the condition of the joint, with a view of removing the head of the femur, if such a course should appear indicated. For this purpose, on October 19, the patient being thoroughly etherized, the abscess over the joint was freely laid open and the skin, gaping, disclosed a granulating surface of six inches square. The head of the bone was in the socket, but on rotation of the limb, the crepitus which was felt clearly indicated extensive caries. An opening was therefore made through the upper part of the capsular ligament, and, the round ligament having been already destroyed by the disease, the head of the bone was turned from the socket and removed, at the middle of the neck, by a strong pair of cutting forceps. The acetabulum was felt to be carious in about one-quarter of its extent, but of course nothing was done to this. Since the operation, the patient's progress has been most satisfactory. The large granulating surface has been slowly contracting; the limb is drawn down by weights, and the constitutional symptoms have entirely disappeared. There is good appetite, no diarrhœa, a marked increase of flesh, and every prospect of a favorable termination.

The specimen exhibited the removal of the entire cartilage from the articulating surface, with a necrosis and commencing line of separation of all the denuded parts. It was clear that the result of such a case, if left to nature, and provided the powers of the patient had held out, of which there was little probability, would have been a large sequestrum in the cavity of the joint and any attempts on the part of nature, to discharge this by ulceration, would in all probability have proved abortive.

Jan. 27.—The patient continues to make very satisfactory progress, and there are no constitutional symptoms.

ART. 121.—*Case of Dislocation of both Femora into the Obturator Foramina.* By Dr. THOMAS C. BARKER, of Barbacoas, New Grenada.*(American Quarterly Journal of Med. Science, April, 1854.)*

The head of the left femur was forced through the obturator foramen corresponding to it, into the cavity of the pelvis, and this greatly complicated the difficulties of reduction. The rest of the story is best told in Dr. Barker's own words.

CASE.—The subject of this dislocation was Jeremiah S—, an Irishman, æt. 19, of a rather slender form, a tailor by a trade, but employed here as a waiter upon the table.

Early on Monday afternoon, October 17, the patient was crossing the Rio Chagres, upon the scaffolding employed in the erection of the railroad bridge across the river at this place, when he slipped and fell, feet foremost, a distance of some twenty-five or thirty feet upon the sand on the bank of the river, and, striking upon the inner sides of his thighs, they were forcibly thrown apart, and the heads of both femora were dislocated into the obturator foramina respectively of each side. The thighs were directed forwards and outwards, and flexed at an obtuse angle upon the pelvis; but which angle approximated much nearer to a

right angle than is generally represented in the books which treat of this dislocation.

Complete extension could not be made of the thighs upon the pelvis, nor of the legs upon the thighs, though the thighs could be flexed at an acute angle upon the pelvis, and the legs could be flexed at a like angle upon the thighs. No serious injury, other than the dislocations, was received by the patient.

I was called to the patient, where he fell, in a few minutes after the accident had occurred: and he was immediately removed to the shanty near by, which was occupied as a hospital upon the San Pablo Station of the railroad.

Dr. Foot, one of my colleagues of the medical staff on the Panama Railroad, from a neighboring station, was present at the time upon this station.

We labored, for nearly two hours, to reduce the dislocations by means of manual traction and manipulation, blankets (the only apparatus at hand) being applied for making extension and counter-extension, in which we were aided by assistants. All our exertions to withdraw the head of either of the femora from its unnatural position were, however, entirely unavailing. Late the same afternoon we renewed our efforts, but with the same ineffectual results. It need hardly be said that we made extension in those directions and by those methods which are laid down as the best in standard works upon surgery, and which I had previously found effectual in similar dislocations. But we were disadvantageously situated, for we were unable to procure two yards even of cord or rope, or any pulleys upon the station.

Further attempts at reduction of the dislocations were discontinued for that day, and an anodyne was administered to the patient. The next morning (Tuesday, the 18th), it was found that he had passed the night without any severe suffering.

No attempt was made that day to reduce the dislocations, and it became necessary to go to Aspinwall, twenty four miles, to procure compound pulleys, cord, and swathes, which were not obtained till the next day (Wednesday, the 19th).

Dr. Foot was present to assist; and I had the aid also of Dr. Rogers and Dr. Loving, my colleagues of the medical staff from neighboring stations upon the railroad.

Early in the afternoon of Wednesday, the 19th, we commenced our operations upon the patient. We first put him under the influence of chloroform; and, after the muscles had become apparently relaxed, we made use of manual traction and manipulation, but without any perceptible effect in removing the head of either femur from its abnormal position. We next resorted to the use of the compound pulleys. Having secured the pelvis by a swathe passed around it and padded with cotton-battling, to which was attached a cord, to a post in the wall for counter-extension, we then made gradually increased, steady, and continuous extension upon the right thigh by means of a swathe passed around it, to which was attached a cord from the compound pulleys, but we found that though the patient, by inhaling the chloroform, was reduced to a state of unconsciousness, and the muscular system was flaccid and powerless, yet, whenever any traction was made upon the limb, an involuntary and spasmodic rigidity was induced in the muscles upon which traction was made: and often, not in those muscles alone, but in those of almost the whole voluntary muscular system. This we could overcome only by continuing the extension steadily and unremittingly while we kept the patient under the continued influence of chloroform.

At length, by the aid of the compound pulleys, we succeeded in dislodging the head of the right femur from its position upon the obturator foramen, and in reducing it into place. This was effected in the method recommended by Ferguson, Miller, and other surgical authors.

"We next commenced operations, by means of the compound pulleys, upon the left thigh in a manner similar to that which we had adopted with the right one, and we labored for nearly an hour, but without any favorable results. But, finding the patient much exhausted from the continued exertions at extension and from the effects of the chloroform, we desisted from any further efforts that day, and, an anodyne having been administered to him, all further attempts at reduction were postponed till the next day.

About 11 o'clock, the forenoon of the next day (Thursday, October 20), we

again resumed our operations upon the patient, who had rested better, perhaps, during the night previous, than could have been anticipated. We first constructed a firm and narrow couch, by placing boards upon two forms, with a hard mattress upon the boards. The patient was then laid upon the mattress on his back, and a stout swathe of sheeting, with cotton-batting between it and the patient's body, was passed across and in front of the pelvis, and then brought under the boards of the couch, where it was firmly secured, and a stick was placed in it, by turning which, the swathe under the couch would be twisted and consequently tightened.

This day, we combined one part of sulphuric ether with two parts of chloroform, and we found anæsthesia more easily produced; and that the depression was less, from this combination, than from pure chloroform, which we had used the previous day.

But we labored from two to three hours without any beneficial results, though we varied the direction of our extension, resorting to all the methods which are recommended for the reduction of this dislocation. And though we made a most thorough trial of the mode recommended by Fergusson and Miller, which had been successful in the reduction of the right thigh, it utterly failed with the left one.

This day, we all perceived what a part of us had thought we detected the day previous, a crepitus and a jerky movement upon "slacking up" the cord on the pulleys after extension had been made forward from the patient's body and downwards towards his feet.

Upon examination per anum, the head of the left femur could be plainly felt through the walls of the rectum, projecting through the obturator foramen into the pelvic cavity, and its motions could be distinctly perceived when the thigh was rotated.

As the patient was somewhat fatigued, we left him to repose for more than an hour, and we then began our operations upon him again.

The patient, having been again put under the influence of the combination of chloroform with sulphuric ether, the left thigh was strongly flexed upon the pelvis; thus making a fulcrum, like a cushion, of the soft parts upon the anterior portions of the thigh and the pelvis; so that, in this position, only moderate pressure made upon the knee was requisite to raise the head of the bone entirely out of the cavity of the pelvis.

A swathe having been applied round the left thigh, a cord from the compound pulleys was attached to it, and the pulleys were affixed to a beam some six or eight feet above the couch.

Extension was then made, in the line of flexion upwards, towards the patient's head, at an angle of about fifty degrees from the horizontal plane of his body, and about twenty-five degrees, laterally, from the vertical median plane. And this extension was moderately strong, and steadily continued, while counter-extension was maintained by the couch upon which the patient was fixed, being kept immovable by assistants sitting upon it. The direction in which extension was made was, at times, slightly varied, yet the general course in which it was continued was the same; and manipulation, by rotating the thigh, was at the same time practised.

After some ten or fifteen minutes of persevering and unremitting effort, the patient, meanwhile, being kept under the influence of the anæsthetic compound, the head of the femur (it having been previously withdrawn, as before described, through the obturator foramen, from the cavity of the pelvis) was returned to its place in the acetabulum. The crepitus, which had been observed, must have been produced by the friction of the head of the femur against the margin of the obturator foramen.

A pillow was placed between the patient's lower extremities, and they were confined together by two swathes; he was allowed to have some brandy and water; and a full dose of a solution of morphia was afterwards given to him before bed-time. He passed a very comfortable night.

He continued to improve in health and strength afterwards; and though there remained some slight degree of stiffness and soreness about the left hip for some time, he is now perfectly recovered.

The swathes were retained about his thighs and legs, and he was kept quiet in bed for a few days. But within ten days after the reduction of the dislocation of the left femur he was walking about, and was able to perform the duties of his situation.

ART. 122.—*Successful Excision of a Neuromatous Tumor from the Sciatic Nerve without division of the nerve.* By Mr. BICKERSTETH, of Liverpool.

(*Edinburgh Monthly Journal*, Aug., 1854.)

Three different methods have been adopted for the removal of this disease: they are amputation of the limb, excision of the tumor with the nerve, and excision without removal of the nerve. The first two are sufficiently simple and satisfactory in their results. The last is always dangerous, and has frequently proved fatal from the intense inflammation which is set up in the nerve, and the parts which it supplies. It has been repeatedly shown by operation that an inch or more of the main trunk of a nerve may be cut out, and yet only temporary paralysis be the consequence. In a marvelously short time reunion takes place, and the paralysis is recovered from. This is more remarkable in the lower animals than in man. In the horse, for instance, there is an operation still practised for the cure of lameness, which consists in the excision of three inches of the nerve supplying the foot with sensation. It cures for a time, but in a very few months the animal goes lame again, and when it is killed the nerve is found complete, as if no part of it had been removed. Mr. Bickersteth proceeds: "In the case here recorded, it would have required at least three inches of the nerve to have been excised including the commencement of both the internal and external popliteal nerves, and this I was afraid to do, lest permanent paralysis of the leg and foot should result—a condition less desirable than loss of the limb by amputation. I determined, therefore, under these circumstances, to run the risk of leaving the nerve entire, and the result has fortunately proved satisfactory, although, I confess, the proceeding was accompanied with great danger.

"Should I again meet with a similar case, I think I should adopt the same plan, but should afterwards take the precaution of cutting across the trunk of the nerve, either above or below the tumor; by doing so, I am inclined to think the danger of this operation would be greatly lessened, for the limb having ceased to receive its nervous supply through the injured trunk, inflammation of it might afterwards take place with comparative impunity, and little or no risk be run of the paralysis continuing for more than a short period."

CASE.—Alfred King, æt. 9, a delicate-looking and extremely emaciated boy, was brought to me about the middle of January, 1853, suffering from excessive and constant pain, of a peculiar character in the left leg and foot, and from a tumor on the posterior part of the thigh, about three inches above the centre of the popliteal space.

His mother gave me the following history: About twelve months before, the boy, who was always considered delicate, began to complain of frequent cramp in the sole of the left foot. It disabled him from walking, for whenever he attempted to extend the leg, so as to place the foot flat on the ground, it brought on violent pain. After a while the pain became more severe, and extended up the posterior part of the leg, as high as the knee. It troubled him night and day, coming on in sudden paroxysms of "violent cramping pain," lasting for a minute or more, and then ceasing with equal abruptness. It made him cry out sharply, and the only thing that gave the least relief was rubbing the leg firmly, or pressing the sole of the foot between his hands. About four months before he came under my care, his mother discovered a hard swelling at the back of the thigh, and she thinks it has been slowly increasing since. It was exceedingly sensitive, and when touched brought on the pain in the foot and leg. For the last three months the poor lad has had no rest. His mother states she is sure he has not slept five minutes together for many weeks. He has sat up in bed all night holding and pressing the foot with his hands, and crying out with sudden pain every few minutes. He has refused to take food, and has become so emaciated and worn out, as to be hardly able to support himself, without assistance, in the

sitting posture. The knee-joint has gradually become flexed, and now he is unable to extend it beyond a right angle.

On examination the tumor was found so excessively sensitive that it was not possible to ascertain its exact characters. It formed a slight prominence in the middle of the back of the thigh, and appeared to be deeply lodged between the external and internal flexors of the leg, just at the part where they begin to separate to form the upper boundaries of the popliteal space.

The peculiar character of the pain, the situation of the tumor, and the history, confirmed me in the impression that the case was one of neuroma. Several applications were tried in the hope of affording relief, but in vain. The friends were earnestly desirous that the tumor should be removed, and at their request I undertook the operation, having first fully explained the possible consequences.

Feb. 8, 1853.—The boy being under the influence of chloroform, I made an incision over the surface of the tumor, from about four inches below the fold of the nates to the middle of the popliteal space. Having divided the fascia to the same extent, the tumor was immediately brought into view, and a little dissection at its upper and lower borders plainly revealed the great sciatic nerve expanding and enveloping the tumor, and passing off again at its lower part, in the form of two distinct nerves, separate from each other about three-fourths of an inch, and gradually diverging towards the inner and outer margins of the popliteal space. The tumor was the size and shape of a hen's egg; its surface was rather irregular, being slightly lobulated and fissured in the longitudinal direction by the passage of the nerve fibrils, which lay along the grooves. They were very sparingly scattered over its posterior surface, but laterally were more abundant. I made an incision through the capsule of the tumor, and then, partly with a blunt hook, and partly with a bistoury, I carefully reflected the nerve fibrils, together with their connecting membrane, which constituted also the capsule of the tumor. In this manner the tumor was very easily turned out from its bed. A good deal of troublesome bleeding from minute vessels in the interior of the nerve, followed this proceeding, and after other means of checking it had been ineffectually tried, it was found necessary to place a ligature on three or four points. In doing so the greatest care was taken not to include any of the nerve structure. Several stitches of the interrupted suture were introduced and the wound dressed with the water dressing.

The boy was quite comfortable a couple of hours after the operation, and slept better the next night than for many weeks before. Sensation was perfect in the limb. It retained its natural heat, and he could move the foot and toes. The day following, Feb. 9th, the skin looked red, and the thigh was slightly swelled, so that it was necessary to remove the sutures and put on a poultice. The inflammation increased, the foot and leg became anasarcous, and after a few days, diffuse erysipelatous inflammation attacked the whole extremity, and spread over the scrotum and lower part of the back. Extensive incisions through the scrotum and upon the front of the leg and foot were required, for the parts threatened to become gangrenous. As it was, a part of the scrotum sloughed away. The constitutional symptoms were very severe, and for several days I almost despaired of his life. Under the free use of wine and bark, with frequent small doses of morphia, he slowly rallied, and the inflammation subsided, but his recovery was greatly retarded by several relapses, and the formation of abscesses about the leg and foot. It was between three and four months after the operation before I could consider him cured, and he was able to walk about without lameness. Since then, and up to the present time, he has continued well; he has had no return of the pain, and can run about as well as any other child.

The tumor on examination proved to be formed of fibro-cellular structure. It was a pale gray color, and rather soft and friable, so that it easily broke when bent or squeezed between the fingers. Its consistence was uniform, and it had no appearance of degeneration.

ART. 123.—Pirogoff's modification of Syme's Amputation. By Mr. —.

(*Medical Times and Gazette*, May 30, 1854.)

The point in which Pirogoff's operation differs from that of Mr Syme, is the preservation of the posterior portion of the os calcis, which is left to fill up the heel-flap. The proceeding is obvious, and easy of execution. The incisions are made exactly as directed by Mr Syme: after practising the first from one malleolus across to the other, the operator need only prepare the integuments about a line or two backwards from the inferior surface of the os calcis; he then proceeds to the execution of the second incision across the front of the joint, the astragalus is then disarticulated, and the os calcis divided by the saw behind the posterior extremity of the astragalus. The posterior extremity of the os calcis is preserved by this proceeding, instead of the whole being peeled out, as in Mr. Syme's operation, the heel-flap is thus completely filled out by the bone. After this the saw is applied to separate the malleoli, and a thin slice of the articular surface of the tibia; the cut surface of the last-named bone is then brought into apposition with the cut surface of the os calcis, and the skin-flaps are accurately united by sutures. The advantages of this operation are obvious 1st, We obtain a longer stump than by Mr. Syme's operation, and the extremity of the stump is firmer, and better adapted to bear pressure with impunity. 2dly, The healing process takes place more quickly, and is less likely to be retarded and disturbed, than after Mr. Syme's operation, the cavity of the heel-flap being filled up by the bone. 3dly, There is no danger of the heel-flap being deprived of the necessary supply of blood, as it is easy to avoid dividing the posterior tibial artery high up in the wound, an accident which often happens during the execution of Mr. Syme's operation, even in the most skilful hands.

ART. 124.—On the lines of incision suitable for the removal of one or more of the Tarsal Bones, and for Amputation at the Ankle-joint if necessary. By Mr. TEALE, Surgeon to the Leeds Infirmary.

(*Medical Times and Gazette*, May 27, 1854.)

Operations at the tarsus having become frequent, and the modes of performing them various, it is desirable to determine generally upon some operative proceeding, which would afford easy access to the tarsal bones, and at the same time be compatible with the removal of the entire foot at the ankle-joint, should the disease of the bones, as disclosed during the progress of the operation, be found to be too extensive to allow of a reasonable hope of preserving the foot. Mr. Teale proceeds:—

"The following mode of operating appears to me to afford these advantages.

"A transverse incision is made across the sole of the foot, commencing about three-quarters of an inch in front of one malleolus, and ending at a similar point in front of the other malleolus. A second incision is then made in the median line, beginning over the tendo-Achillis, on a level with the ankle-joint, and joining the former at right angles in the sole of the foot. The two lateral flaps thus marked out being dissected upwards close to the bones, the calcaneum and astragalus are freely exposed. By division of their ligamentous and tendinous connections, one or both of these bones may be easily removed; and should it be thought desirable to remove also other bones of the tarsus, they may be readily reached by extending the median incision a little forwards. If from the great extent of disease, it is found necessary to remove the entire foot, it may be accomplished by uniting the two extremities of the transverse incision by a curved incision across the dorsum of the foot. Even where it is originally intended to amputate at the ankle-joint, the operation by two lateral flaps, as here described, affords much greater facilities, as I have experienced, than the ordinary mode of detaching the soft parts in one flap or bag from the calcaneum.

"My present object being chiefly to describe a mode of operating, and not to discuss the general question of the propriety of removing one or more diseased bones of the tarsus, I will merely on the latter point state my conviction, which

is somewhat strengthened by the following case, that such operations are of doubtful propriety when the disease is of a strumous character, originating in the cancellous structure of the bones; since, in this affection, after the removal of one or more carious bones, the exposed articular surfaces of the neighboring bones may appear healthy, even while their cancellous structure is in an early stage of the disease. Whereas, in those cases of caries which have originated in disease of the ligaments or synovial membrane, the full extent of the disease is more likely to be exposed to the observation of the operator.

"This objection, founded upon the strumous character of the disease, applies with much less force to the excision of joints like the elbow, which allow of the removal of the articular ends of all the bones entering into their composition.

"The disease of the tarsus in the following case, contrary to the expectation which from its history I had formed, proved to be an affection of the cancellous structure of the bones; and the result is rendered less satisfactory than I could have wished from the probable development of strumous disease in other bones than those which were chiefly and primarily affected; yet the case is, in my opinion, of sufficient importance to be put on record, as showing the facility afforded for removing several of the tarsal bones by the mode of operating here recommended—the slight amount of deformity resulting from the removal of three of the larger tarsal bones—and the free power of moving the foot upon the leg which the patient can exercise by the voluntary action of his muscles."

CASE (reported by Mr. Greenwood).—Aquila Masson, of Bingley, a tall, thin man, æt. 24 years, was admitted into the Leeds Infirmary, under the care of Mr. Teale, July 18th, 1853, for disease of the right tarsus. His family is healthy and long-lived. He has enjoyed good health until about two years before his admission, when, from the stumbling of a horse, his foot became entangled in the stirrup, and severely sprained. An extremely tense and painful swelling, as large as a hen's egg, was observed a few days afterwards on the outside of the ankle. At the end of five months he still suffered greatly. The swelling continued of nearly the same size, but rather less painful. A few weeks later the pain had ceased, but the swelling continued. By the advice of a quack, a hard pad was placed over the affected part, and the whole foot was firmly encased in a thick leathern boot, with iron sole. Pain immediately followed. The pressure was kept up for a month, during which time he suffered from intense pain, sleeplessness, and loss of appetite; suppuration occurred, and he rapidly emaciated.

In this state he was admitted into the Infirmary. Several sinuses communicated with the astragalus and calcaneum. The metatarsus appeared free from disease, and the tibio-tarsal joint appeared unaffected. After being confined to bed for a fortnight, and allowed generous diet, his strength was so much recruited, that the excision of the carious bones was decided upon.

July 30th.—The patient having been placed under the influence of chloroform, Mr. Teale commenced an incision by plunging the point of a French bistoury down to the bone in front of the outer malleolus, at a distance of three-quarters of an inch from it. This incision was carried across the sole of the foot, and ended at a point situated three-quarters of an inch in front of the inner malleolus. By this incision the soft parts were divided down to the bones, and the calcaneo-cuboid joint opened. A second incision was now made in the median line, beginning posteriorly at a level with the ankle-joint, and extending along the tendo-Achillis, and under surface of the calcaneum, until it met the former incision in the sole of the foot. The two lateral flaps thus formed being dissected upwards, and the ligamentous connections of the calcaneum divided, this bone was quickly detached. The under surface of the astragalus being now ascertained to be carious, this bone was in like manner quickly removed. The median incision was now extended a little forwards, to give more easy access to the cuboid, which was also diseased. The removal of this bone occupied a little more time than that of the former, but it was accomplished without difficulty. After a careful examination of the articular surfaces of the tibia and fibula, and the exposed tarsal bones, no further disease was observed. A few small vessels were secured. The flaps were placed in apposition, and covered by wet lint, supported by a light bandage.

Six hours after the operation the wound was cleansed from clotted blood, and, after being united by sutures, was covered with wet lint. The limb was laid on the outer side, in a flexed position, upon a leg-splint.

On examining the bones which had been removed, the cartilages were found ulcerated in several places, and the whole cancellous structure softened, so as to admit of their being readily cut by a scalpel.

August 3d.—He has proceeded favorably. Sutures removed; wound united at several points; no sloughing. The flaps supported by adhesive straps, covered with lint wet with myrrh lotion.

4th.—Rather copious discharge of healthy-looking pus; pulse 116; tongue clean and moist; he complains of hunger. To be allowed meat and a little beer.

12th.—Since the last report he has gradually gained strength. Pulse 90; appetite good.

17th.—The whole lines of incision are healed, except in front of the outer malleolus, from which part purulent matter is discharged.

23d.—His general condition much improved; pulse 80; the discharge has lost much of its purulent character, and now resembles synovia mixed with a little pus.

September 16.—There is still a free discharge of synovia; considerable deposition of solid matter (fibrous) has taken place between the flaps, so as to compensate in appearance for the loss of bone. Two drachms of tincture of iodine to be injected into the synovial fistula.

19th.—A very slight degree of inflammation followed the injection. To-day the discharge is much diminished. The foot admits of considerable flexion and extension. Gentle passive motion to be used daily.

20th.—To be an out-patient.

December 14th.—With the assistance of a crutch he can walk pretty comfortably. By the action of his muscles he can freely move the foot upon the tibia and fibula. The vacant space caused by the removal of the bones has been so completely filled up by the new fibrous substances, that but little deformity is observable. A slight discharge of synovia continues. Some of the original sores have not quite healed, but they look healthy.

February, 1854.—During the beginning of this month, after exercising the foot more freely than usual, considerable swelling occurred, and an abscess formed at the side of the foot. Thick purulent matter was removed by incision, when the pain ceased, and the swelling greatly subsided; but still there was a general, although moderate, enlargement of the foot, which led to a suspicion that the front row of tarsal bones might be taking on diseased action.

May 3d.—He is much the same as at the last report. A little matter is discharged from two or three sinuses, and there is some thickening of the metatarsal portion of the foot. The posterior half of the foot has nearly its natural form. He has the power of freely flexing and extending the foot, and he can bear firm pressure on the heel.

ART. 125.—*Cases of dislocation of the Astragalus.* By (1) Mr. TUFFNELL, Surgeon to the City of Dublin Hospital; and (2) Dr. ROBERTSON, Lecturer on Midwifery in the Charlestown Medical Institution.

1 (*Dublin Medical Press*, Dec. 28, 1853.)

2 (*American Quart. Jour. of Med. Science*, April, 1854.)

In Mr. Tuffnell's case, reduction was effected; in Dr. Robertson's case, the bone had to be removed.

Mr. Tuffnell makes some very valuable remarks upon what should be done in cases where reduction cannot be effected, *i. e.* in the majority of cases, and with these we preface the relation of the cases themselves. Mr. Tuffnell proceeds:—

“In forty-six cases of this accident recorded by Mr. Turner, of Manchester, I find six only to have been completely reduced; and of these six, three were accompanied by fracture, one of the tibia alone, the second of the tibia and fibula, and the third of the os calcis.

"In two cases the bone was *partially reduced*; in ten it was *suffered to remain in its new situation*; in six, it was *partially excised*; in eighteen, it was *wholly excised*; and, in four, the *limb itself was removed by amputation*. Of these forty-six cases, sixteen were simple dislocations, and thirty were complicated or compound. It is with the first only that we have now to deal.

"Of these sixteen cases, then, *three* were reduced, the patients regaining useful feet. In *eight instances* the astragalus was left undisturbed in its new position. Five of these cases did well, but the form of luxation in each was the same, namely, that directly backwards, 'the astragalus, resting in the interval between the posterior part of the tibia and the tendo-Achillis, a spot sufficiently spacious to give occupancy to the dislocated bone without much removal of the tendon of the heel, and without direct pressure on the integuments of this region.' In the other *three* cases, where the bone was suffered to remain, and where the direction of the dislocated bone was either *forwards*, *forwards and outwards*, or *forwards and inwards*, there was a far different result. In the first, there was a permanent deformity; in the second, ankylosis of the joint; and, in the third, permanent deformity and lameness.

"In the *single case of partial excision*, there was a useful foot; and in the *two cases of complete excision*, there was the same result. The remaining two cases were submitted to amputation. We have left, then, for consideration, out of these sixteen cases of simple dislocation (after deducting the three reduced and the five luxated backwards as not appertaining to the form of dislocation now before us), *eight* cases from which to draw our conclusions as to the mode of treatment to be adopted, namely, whether to leave the astragalus in its new situation, or to excise it partially or *in toto*.

"Five cases are to be included under the first head, because the two which became subjects for amputation were cases of this kind, where reduction had been attempted and failed, and where the bone had been left to nature. Now, of these five, we find ankylosis of the joint in one, permanent deformity and lameness in two, and loss of limb in the remainder. This does not argue favorably for allowing the bone to remain. Then as to excision partially or altogether: We have three cases, *one partial*, performed at the time of the accident, and *two complete*, the bone being removed on the thirty-third day in one instance, at the end of ten weeks in the other, sloughing having taken place in each. These three cases recovered with useful feet, still, in the two latter, not until the luxated bone had been removed. From the results of these cases, then, it would appear that in simple luxation of the astragalus forwards, forwards and inwards, or forwards and outwards; and, in fact, in all situations, excepting that directly backwards, if the surgeon should be foiled in reduction, he should at once remove the bone; and I would go even farther, in the instance of a laboring man, and say, remove the foot by Syme's operation, leaving him Nature's pad the integument of the heel to stump upon—a far more serviceable termination to his leg than an ankylosed and weighty foot. This I have no hesitation whatever in recommending. I am an advocate for conservative surgery, so far as the objects to be derived from it are *real gains and undoubted advantages* to the individual, such, for instance, as from excision of the elbow-joint, or partial amputation of the hand, whereby a member, though maimed, is left more efficient than any that art and ingenuity could supply. This is right, this is what we should use our every effort to secure. But I say conservative surgery may be overdone, as I feel convinced it often is in the cases here before us. I am speaking now from the experience of three cases that have come under my own observation, in each of which the bone was removed at different periods after the receipt of the injury, and in each of which the individual gained what would, I am convinced, be reported as a *useful foot*. This is the point to come to. The question for consideration is the power of progression that remains, the capability of taking exercise, and that exercise which a laboring man must do to enable him to earn his bread. These three cases would, I have no doubt, have been entered in a statistical report as recoveries with *useful feet*, but in neither of these three cases can the individual earn his bread.

"One of these was a patient of my own, from whom I removed the astragalus (or rather, I should say, the greater portion of it, for it was fractured obliquely

across, as is so frequently the case) in 1850. He writes to me now (in 1853) in answer to my question as to how he is going on, to say: "I can bear considerable pressure on my foot, and it seems to increase in strength, but I could, I think, get on better if I had a boot that would support me from the knee. I cannot yet do any work." This man tells the truth, and explains the matter in a word, *he has a foot that he can use, but he has not a useful foot.* He has a foot that for a clerk in an office, a solicitor, a commissioner, a man of private fortune, &c., &c., would do well enough, and I have no doubt be regarded by each as a very satisfactory cure, but he has not the foot for hard work. Could he have had this? I believe he could. Had I, in 1850, dissected out his entire foot, nipped off the malleoli, and brought up the pad of heel from below, instead of taking out the dislocated astragalus alone, he would not now, in 1853, be suggesting, and of course wishing, for a support from the knee. This question of conservative surgery, too, is to be looked at in another light, viz., its power of diminishing the risk of loss of life. This is, certainly, the all to be regarded point—to it every man must bow, but that argument is not in its favor here. Who that has had experience of the two cases under consideration, namely, the after treatment of a case of open ankle-joint, from which the astragalus has either been removed by excision or left to come away, and of Syme's operation performed for accident on healthy structure, will make a comparison as to the risk of life between the two. Look at the inflammation, suppuration, sloughing, abscesses, and perhaps diffuse inflammation; the water-dressing, poultices, incisions, splints, and swinging-cradles, with three months or more in bed; the opiates, tonics, bark and acid, wine and porter, and change of air, connected with the one, and the two sutures, strap of plaster, light dressing, and slight confinement required for the other. Some will say their experience of the latter does not lead them to regard it with such favor, that cases have occurred which induce them to modify the opinion they once formed. But, recollect, those amputations of the foot were not for accident, they were operations for disease. This is a different case altogether. Here there are infiltrated tissues, sinuses, ulcerated cartilages, perhaps unhealthy bone, a state of things far different from that of a clean cut through healthy parts; a state of things produced in, if not originated by, a strumous constitution, and which must be taken into account as influencing the one, and having no connection whatever with the other. This leads me to speak as strongly as I do, and I feel convinced that if removal of the foot by Syme's operation be adopted in our hospitals (upon the class of persons who become the subjects of this accident in cases of irreducible dislocation of the astragalus, either simple or compound, excepting always luxation directly backwards), a far better set of extremities in the aggregate will be given to the sufferers than they now have, and that they will, in very many instances, be enabled to labor in ways that they cannot do now.

"There is, however, one modification that I would make, and this is, that in commencing the operation, I would do so in the form most suited in each particular instance for the mere removal of the bone; so that if, on dividing the integuments directly over it, I found the astragalus so far detached that I could free it, and bring it easily away, and close the joint, I would do so, giving the man the chance; but if I found it firmly attached, both by its connecting ligaments and surrounding textures having, as it were, to be dug out of the joint, I would then proceed at once to disarticulate the foot."

1. *Mr. Tufnell's Case.*—James O'Brien, æt. 19, a mason's laborer, residing in Power's Court, a thin, active man, was admitted into Martin Ward of the City of Dublin Hospital, at 11 A.M. on the 24th of August last, having a short time previously descended from a scaffold in the neighborhood of Stephen's Green. The account which he gave of the accident was this. He said that, finding the platform on which he was standing beginning to yield, he sprang from it into the street with as much force as he was capable of using, intending thereby to jump clear of the timber and brick-work, which he thought would fall upon and crush him. He reached the ground in an upright position, alighting upon a broken brick, which turned with him as his left foot came upon it, and he fell upon his side in excruciating agony. When brought to the hospital, he presented the

appearance of a man who had received a severe shock. He was ashy pale, trembling, and cold, feeling sick, and making an occasional effort to vomit.

On examining into the nature of the accident (which, being in the hospital at the time, I did at the moment of his arrival), I found the left foot dislocated inwards from the tibia and fibula, with the astragalus thrown outwards. The particular condition of the parts was the following: Looking at the limb as it rested on the mattress, the calf of the leg lying on the bed, it presented somewhat the appearance of an aggravated case of talipes varus. The sole of the foot looked obliquely inwards, a deep angular hollow existing in the situation of the inner malleolus, with an acutely prominent projection, all but perforating the integument, and white and glistening from extreme tension, presenting at the outer ankle, caused by the malleolar extremity of the fibula, which was all but thrust through the skin. Two inches anterior to this point, lying upon the outer border of the tarsus, external to the last of the tendons of the extensor communis digitorum muscle, was a hard projecting mass of irregularly ovoid form, immediately beneath the skin, formed by the articulating surface of the luxated astragalus.

The foot itself, from the instep to the toes, bore a natural appearance, as did also the sole when viewed from below. The space beneath the internal malleolus, posterior to the scaphoid bone, which should, in the normal state, be occupied by the neck of the astragalus, presented a raised puffy swelling from effused blood. The internal malleolus was sunk deeply, occupying the position of the body of the astragalus, whilst the external malleolus projected directly outwards. The tibia and fibula were uninjured, there being no fracture of either of these bones.

Reduction was attempted (as soon as time had elapsed for taking a cast, or in about an hour from admission into hospital) and effected in the following manner: The patient was laid upon his back, the pelvis fixed, the thigh bent upon the pelvis, and fixed also; the leg bent upon the thigh, and extension made by assistants from a double clove hitch fastened round the foot, whilst direct pressure was put upon the displaced astragalus with the right hand, the foot itself, at the same time, being rotated outwards with the left. In this way reduction was effected, the bones slipping back into position within a minute, and all deformity disappearing at once.

The leg was placed upon a McIntyre's splint, and cold, by the water battery, applied. He was ordered also the following pill to be taken regularly every fourth hour: R. Calomel. gr. ii; Pulv. Jacobi ver. gr. i; Pulv. aloes, gr. ij; Pulv. opii, gr. †.

A combination long employed by Dr. Peile in cases of laceration of tendinous structures, and where tetanic affections might be deemed as likely to ensue.

The succeeding day there was effusion into the joint, producing an increase of girth of about one inch. The patient complained, however, of no pain, and said that he felt quite well again. The water-dressing was continued until the 30th, when effusion having almost altogether subsided, it was discontinued, and a starch bandage applied. On the 30th of September he was discharged from hospital with the perfect use of his foot, and returned to his daily labor again.

2. *Dr. Robertson's Case.*—Mr. J. B., while in a state of drunken excitement, precipitated himself over the bannisters, and fell upon a flight of stairs about twenty feet below. This was the 10th of July, 1851. Dr. Robertson found the left foot turned completely inwards, and, on attempting to stand, the outer margin of the foot rested upon the floor. The lower extremity of the fibula was torn from its connections with the tibia and astragalus, and thrown backwards. The astragalus was dislocated forwards and outwards, being completely turned over or tilted up, so that its superior articulating surface with the tibia and fibula was brought into a vertical position. This caused two prominent points—one, the outer articulating protuberance with the scaphoid; the other, the outer articulating protuberance with the calcis—to project so much as to nearly protrude through the integuments, which were drawn tensely over them, and slightly excoriated.

All attempts at reduction failed, though full advantage was taken of the relax-

ing influences of chloroform and tartar emetic; and this being the case, the limb was placed in a favorable position and covered with evaporating lotion.

The resulting inflammation ran very high. In a few days the integuments sloughed in two places where they were most stretched by the displaced bone, and the suppuration from the joint and neighboring parts became profuse. There was also great constitutional disturbance. Under these circumstances it was deemed advisable to remove the bone or the limb, and the former alternative was decided upon. The operation was performed on the 9th of August, 21 days after the accident. Dr. Robertson writes: "A lunated incision was carried from below upwards, through the superior portions of the openings caused by the sloughing of the integuments, descending and terminating in front of the external malleolus, on a level with the tendons which pass under it. The flap was dissected down and turned back. The upper portion of the integuments was turned back also. With the index finger of the left hand as a director, the tendons and anterior tibial artery were protected, and forced as much as possible out of the way: and, with a strong, narrow, straight bistoury, the connections of the bone were severed in that direction. The attachments in front were next divided, and the knife freely passed between the astragalus and calcis. The bone was now seized with a pair of Meigs's embryotomy forceps, which I had selected for the purpose, and forcibly wrenched outwards, while the remaining deep-seated attachments were severed. But slight hemorrhage took place, as no artery requiring a ligature was divided. Upon examining the bone, it was found that the posterior inner protuberance had been fractured, and, on passing the finger into the cavity, the fragments were found to be held by firm ligamentous attachments. These were removed by means of the probe-pointed bistoury and forceps. The flaps were drawn together, and secured by interrupted sutures and adhesive straps, and the whole covered with an emollient poultice."

The adhesive straps were removed on the third day after the operation, and a portion of the edges of the flaps had united by the first intention. In the course of ten days, however, the joint became generally inflamed, with profuse suppuration. Fluctuation was felt over the internal malleolus. It was opened, and, for some days, continued to discharge an ill-conditioned bloody pus; it then gradually closed, leaving a general tenderness over that region, which slowly disappeared.

On the 27th of August, the condition of the patient was decidedly unfavorable. The discharge from the joint was profuse, and unhealthy in character. Considerable exfoliation had taken place from the inferior end of the fibula, and the granulations about the external wound were flabby and unhealthy in appearance. The patient was also suffering greatly from constitutional irritation; in addition to which he had become extremely emaciated. Upon farther consideration we determined still to persevere, and endeavor to save the limb. Our patient was placed upon a generous diet, a pint of Scotch ale per day, and a table-spoonful of the tinct. cinchon. comp three times a day, and the edges of the wound were daily touched with lunar caustic. Under this course, matters soon assumed a more favorable aspect, and his improvement was now rapid. On the 12th September he was so far recovered as to be able to draw on a stocking and loose slipper, and take exercise with the assistance of crutches. About the 1st of October he left for his residence in a distant State, the external wound having healed to a mere point.

"He was heard from on the 12th December. The external wound had entirely healed. He has good lateral motion of the new joint, and flexion and extension to a limited extent. He is able to walk comfortably with the assistance of a common walking-cane, and a shoe with the heel about half an inch higher than the other."

ART. 126.—*On dislocation of the Metatarsal Bones downwards and backwards.* By MR. SMYLY, Surgeon to the Meath Hospital and County Dublin Infirmary.

(*Dublin Quarterly Journal of Medicine*, May, 1854.)

This case is the counterpart of that by Mr. Tufnell, related in our last volume, as the first of the kind on record.

"CASE.—William P., a young man, was admitted into the Meath Hospital on the 23d of March, 1843, for an injury of the foot, which he sustained the day before. He was driving a cart, sitting in front, when, in making way for another vehicle to pass, the wheel got into the gripe of the ditch at the roadside, and the cart on which he sat was upset. He fell so that his right foot got between the shaft and the bank of the ditch. The shaft crushed the heel against the toes, which were fixed by the bank. The patient suffered severely at the time, and was quite disabled. His foot was pulled immediately after the accident; but, getting no relief, he was sent to the hospital. On admission, the foot was so swollen that the nature of the accident could not be ascertained; when, by leeching and appropriate means, the *ecchymosis* was dispersed, the form of the injury became manifest from the projection of the tarsus, the hollow immediately in front of it, with the corresponding projection in the sole, and the shortening of the foot. On the sixth day after the accident, efforts were made, by means of pulleys, to reduce the dislocation, which, with perseverance, proved perfectly successful. A piece of wood, in the form of a sandal, made to fit the sole of the foot, having a heel-piece of leather with a strap to cross the instep, retained the bones in their places. On the 16th of April this man was dismissed, being sufficiently recovered to use the foot.

"In this, as in Mr. Tufnell's case, the luxation was caused by a force acting between the heel and the toes, pressing the parts together. This case shows that there is no physical barrier to reduction in such dislocations, and that an attempt ought to be made before condemning such lesions as irremediable, and abandoning them to nature.

"The most important difference between Mr. Tufnell's and my case is, that reduction was accomplished in the latter; this I attribute to the circumstance that in mine the whole range of metatarsal bones was dislocated, and thus there was a more extensive laceration of the ligaments; and, secondly, the extending power could be more efficiently applied than where only three bones were displaced—the two which remained *in situ* impeding and resisting extension."

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

ART. 127.—*Cases of Prolapsus Uteri during pregnancy.* By (1) Dr. CHAPMAN, of Brooklyn; and (2) Dr. BONE, Assistant Surgeon to the 97th Regiment.

1. (*New York Journal of Medicine*, May, 1854.)
2. (*Edin. Monthly Journal*, Sept., 1854.)

These cases are remarkable, from the fact that the process of gestation was not seriously disturbed by the accident, and by the rough measures which were necessary to remedy it. The first case is especially remarkable, for here a delicate woman, five months advanced in pregnancy, carried her child for three weeks external to her body, performed all her housework for the time, and suffered no inconvenience except some soreness arising from the uterus being chafed. The second case occurred at Halifax, in Nova Scotia, and was communicated to the Edinburgh Obstetrical Society by Dr. Graham Weir.

1. *Dr. Chapman's case*.—Mrs. W., healthy, spare habit, and mother of three children, came under my observation during her second confinement. My attention had been called to nothing unusual in her case. I saw Mrs. W. on the 19th November, 1849; she remarked that her womb had been down for three weeks, with a constant bloody discharge, rather freer than the menses, but natural in appearance. For three weeks she had been constantly on her feet, attending to her household affairs. During the three weeks she had made many efforts to reduce the womb, which, from its size and tenderness, were ineffectual. I directed her to keep her bed till the next morning, and in the meantime foment the womb constantly, when I would call again and reduce it.

Nov 20th.—On examination, I found the womb of the size of the two closed fists, completely external to the body. My thumb and fingers could meet above its fundus, external to the vulva, having only the inverted vaginal walls and ligaments of the womb between them. When she was erect, the womb must have extended nearly to her knees. At the time, I supposed the enlargement of the womb arose from its strangulation and congestion. It is proper to remark, that Mrs. W. said she had been subject, since her first child was born, to an almost constant prolapsus when she was on her feet, which she never before had found trouble in reducing. I effected the reduction without much difficulty; applied a compress over the vulva, with a T bandage, and directed her to get up after two or three hours.

Nov. 21st.—Immediately on getting out of bed, the prolapsus occurred again. I directed her to lie down, and then found the womb more irritable and larger than before. I reduced it immediately, but with considerable difficulty and the exertion of some force. She was directed to keep the recumbent posture and use astringent injections; a putrid discharge followed, and continued five days. On the 4th of December she felt life, fifteen days from the first reduction. After this time she was allowed to get up, and I discontinued my visits after the 8th.

On the 15th of March I was called to Mrs. W. again. She said that she had continued feeling life stronger and stronger every day since I had last seen her; that the womb had been down many times since my last visit, but that she had been able to put it back; that now it was down worse, and of greater size than ever before, and that she could not reduce it. Besides, she had labor pains that recurred every ten minutes. I found the fundus uteri as high as the umbilicus; the neck of the womb, external to the genital fissure, something larger than the two closed fists. Through the os uteri I could feel the child's head resting on the rami of the ischium and pubis. As I failed to reduce the uterus while she lay in bed, I directed her to

turn on her face, resting on her knees and shoulders, in which position I easily succeeded. On examination, I felt the os uteri dilated to the extent of a circle two inches in diameter. The pains gradually subsided, and in two hours' time the os uteri had contracted to the size of half a dollar.

On the 29th of March she was taken in labor, and delivered of a strong, vigorous female child, weighing six pounds. She must have been at her full term, from the development of the child's head; the posterior fontanel was closed, and the anterior was no more open than usual. No prolapsus occurred during the labor, but the womb rested low in the pelvis. Mrs. W. said that the womb had come down every two or three days since the reduction in November, and also in March, but that, by lying down, she could reduce it. Probably after the reduction in November the prolapsus was only partial. During her whole gestation the child's head undoubtedly rested on the perinæum, as she remarked that it always seemed to her that she sat on the child when no prolapsus existed.

She was delivered 130 days after the reduction in November, consequently (allowing 280 days for the term of gestation) she was at that time advanced 150 days, or 21 weeks and three days, or about five months. At this time, it is to be recollected, when she was five months advanced in pregnancy, the womb had been completely external to her body, hanging nearly to her knees for the space of three weeks; and during this time she continued about her house every day, suffering nothing more than the inconveniences of dragging pains, the discharge, and the obstruction to walking, from the bulk of the womb and its tenderness.

2. *Dr. Bone's case.*—I was called, on Friday evening, 16th July, 1852, to see Mrs. Mulrain, aged 25, wife of a soldier, 97th Regiment, whom her husband reported to have met with an accident, and to be very ill. On my arrival at her lodgings I found her in bed, her countenance contracted, face pale, extremities cold, feet drawn upwards, pulse quick. She informed me that when lifting a tub of water she felt a sudden pain in her back and side, and that something had given way within her, and that she was five months pregnant. On turning down the bed-clothes a tumor was felt lying towards the right side and across the abdomen. On examination it was found to be projecting from the vagina, about the size of an infant's head, and covered with a mucous secretion, but not very painful on being touched.

Having passed my finger along the tumor, I found the vagina filled up and distended by the mass; the os uteri could not be detected, the foetus was without motion. There was no hemorrhage. Suspecting that the tumor was the uterus that had fallen down and was protruding, I asked if the same accident had happened to her before. She replied that after the birth of her first child the uterus had "come out," but not so much as at present.

Before my arrival the women in the room had put a bandage between her thighs and tied it round her neck, to support the tumor. Having lowered her head, and raised her hips with a pillow, I determined to try to reduce the mass by taxis. The left hand being oiled, I seized the neck of the tumor and gently compressed it, and, by pressure directed upwards, endeavored to replace the tumor. After a little resistance the protruded mass yielded, and returned inwards till it reached the promontory of the sacrum, and resisted all further efforts at reduction, the patient meantime moaning and complaining of great pain. I then discontinued the pressure, and applied cold cloths to the vagina and lower parts of the abdomen, and also dipped my hand in water and rapidly applied it to the uterus within the vagina. The attendance of Mr. Cay, the senior assistant surgeon of the regiment, was requested, and his permission asked to use chloroform. He was unwilling to sanction the use of it. After waiting some time, I renewed the pressure, and the uterus returned slowly to its place, when the finger came in contact with the os uteri. I afterwards examined the uterus through the parietes of the abdomen, and found it upright. The woman was then turned on her back, with the pillow still under her, and a bandage was applied above her hips and thighs, and as the vagina was relaxed I directed that some ice should be placed in it. I then gave her twenty drops of tincture of opium, and directed her husband to keep her for some time in the position in which she was then placed.

17th July.—She passed a quiet night, slept some time, but had vomited after I left her on the previous evening; no pain of the abdomen; the uterus in its place; *no movement of the child felt*; vagina nearly of its natural size.

R Olei. Ricini ʒss.

Aqua Cinnamomi ʒj.

Fiat haustus statim sumendus. To take rice and milk.

In the evening the bowels freely moved by the oil used, and soon after, the foetus was felt freely moving.

18th July.—The child moves freely and vigorously. The patient feels quite strong, and was allowed to rise out of bed next day. Since then I have frequently seen her, and she continues till this date, 14th October, progressing favorably with her gestation.

ART. 128.—A case of Paralysis occurring during Childbed.

By DR. FLEETWOOD CHURCHILL.

(Dublin Quarterly Jour. of Medicine, May, 1853.)

This case occurs in a memoir on *Paralysis occurring during Gestation and Childbed*, in which are collected together upwards of thirty analogous cases, from the writings of various authors, and from other sources. Dr. Churchill is wishful to detect some peculiarity in the paralysis occurring under these circumstances, but we do not see that he succeeds in doing so. He thinks that albuminuria, or the condition of blood leading to albuminuria, has played an important part in bringing about the paralysis in many of the instances, and that the treatment ought to have an especial reference to the condition of the kidney.

Dr. Churchill's case is of very considerable interest. It is of interest as showing the condition of the urine and kidney, and also from the fact that air was present in the vessels, and apparently the immediate cause of death. It appears, indeed, to be very similar to one of the cases of "pneumathæmia" described by Dr. Cless on a former page. In this volume Dr. Churchill writes:—

CASE.—Mrs. A., æt. 26, was confined, for the fourth time, on Saturday, November 12, 1853, after a labor of two or three hours, the second stage being under one hour. She had enjoyed excellent health during pregnancy; had no headache or derangement of the stomach or bowels, no œdema; nor was she subject to nervous or hysterical attacks. She was neither plethoric nor anemic. After her confinement she recovered, without a single drawback up to the seventh day, November 18th, on which day, at 9 A.M., after speaking to the nurse quite composedly, but without making any complaint, she became insensible, with some twitchings of the face, but without any other convulsive movements. The insensibility lasted but a few minutes, but when she recovered she was found hemiplegic on the right side, with some difficulty of speaking. These symptoms gradually diminished, however, and at 3 P.M., when Dr. Duke requested me to see her, she could move both leg and arm, and grasp my hand firmly, and speak quite intelligibly. She was quite intelligent, but there were some words which she either could not pronounce or could not remember, although she recognized them when mentioned, and assented; nor could she put out her tongue freely. She said that she had no pain in the head, nor anywhere else; the eyes were clear and bright, the pupils well dilated and amenable to light, which, however, caused her no annoyance. The pulse was 140, small, thready, and fluttering. There was a slight degree of tenderness in the right iliac region, which disappeared soon after; the lochia were abundant, natural in appearance, and free from unusual odor; and she had plenty of milk. After very minute inquiry, neither Dr. Duke nor I could detect any cause for the attack. Dr. Duke had applied six leeches to the forehead; had given moderate doses of blue pill and opium, which were continued; and had applied sinapisms to the legs, and a blister to the nape of the neck. She continued pretty much in the same state during the day, but in the evening she had another attack of paralysis, accompanied by very slight twitchings of the arm, after which the loss of power was much more complete, although she retained perfect sensibility throughout.

November 19th, 10 A.M.—She slept at intervals during the night; pulse 140, small and weak. She can still move the leg a little, but the arm scarcely at all; her speech is thicker, and the difficulty of getting out certain words increased; but she shows that she understands everything that is said. The bowels have been moved, and the bladder emptied; but, from the difficulty of moving, she passes all under

her, though not unconsciously. The same remedies were continued, the head shaved and blistered, and chicken broth allowed.

20th, 10 A. M.—In much the same state as yesterday, except that her pulse has improved in strength and volume, and is only 120. She has no pain at all, is quite intelligent; the expression of her face calm and easy; she cannot move the arm, but it is quite sensitive; the leg she moves a little. The bowels were moved, and the urine passed. We had this day the advantage of Dr. Stokes' assistance, and as he concurred in our plan of treatment, the pills of mercury and opium were continued, another blister applied, and a mixture of ammonia, infusion of orange peel, ordered.

21st, 10 A. M.—Dr. Montgomery visited her with us this day; we found the paralytic affection in the same state as yesterday, but she seemed not quite so well, in consequence of having passed a sleepless night, and from the bowels having been acted on too freely by the mercury. Pulse 120, weak, but fuller and more steady than they were two days ago. Neither Dr. Stokes nor Dr. Montgomery was more successful than we had been in detecting the exciting or the pathological cause of the attack. The pills were ordered to be omitted, and a chalk mixture, with a few drops of laudanum, substituted. Another blister was applied to the head.

22d, 10 A. M.—Our patient seemed better this morning, more lively and intelligent; she can move the leg more, but the arm and hand are quite powerless; the bowels are more quiet, and she takes a little food well. Partly from her inability to use the bed-pan, and partly from her passing both urine and feces together when she did use it, we had no opportunity of examining the former until to-day. The nurse had always told us that it appeared natural, but this day we procured a quantity, which I brought away for analysis. Unfortunately, the cork came out of the bottle, and all was spilled except about half an ounce. This, though insufficient for an accurate quantitative analysis, was enough to show the presence of a large proportion of albumen, with epithelial scales, pus corpuscles, and the urates of ammonia and soda.

Further visits on my part were unnecessary, but Dr. Duke was kind enough to furnish me with specimens of the urine passed in the nights of Nov. 22d, 25th, 26th; and my intelligent young friend, Mr. Charles Leet, has given me the following careful analysis of each.

No. 1. Nov. 23d.—Urine pale yellow in color, faint, peculiar odor, feebly acid reaction. Specific gravity, 1028·500.

Water,	934·850
Solid constituents,	65·150
Urea,	14·591
Uric acid,	1·250
Fixed salts,	11·166
Albumen,	19·225
Ammonia, salts, and extractive matter,	18·918
Amount in 1000 parts of urine,	—65·150

No. 2. Nov. 24th.—Physical characters the same as the last, but with a much smaller sediment. Specific gravity, 1024·250.

Water,	943·087
Solid constituents,	56·913
Urea,	18·340
Uric acid,	1·200
Fixed salts,	9·245
Albumen,	10·928
Ammonia, salts, and extractive matter,	17·200
Amount in 1000 parts of urine,	—56·913

No. 3. Nov. 26th.—This specimen was of a deeper yellow color, and had a stronger reaction. Specific gravity, 1014·500.

Water,	969·658
Solid constituents,	30·342
Urea,	9·250
Uric acid,	1·909
Fixed salts,	6·100
Albumen,	3·833
Ammonia, salts, and extractive matter,	9·250
Amount in 1000 parts of urine,	—30·342

The following table will afford a comparative view of each specimen with the others, and with the average standard in health. As the quantity passed in twenty-four hours could not be ascertained, the normal quantity, 30 oz., has been assumed:—

	Normal Average.	Specimen No. 1.	Specimen No. 2.	Specimen No. 3.
Amount of Urine in 24 hours, . . .	30 oz.	30 oz.	30 oz.	30 oz.
Specific gravity,	1019	1028	1024	1014
Solids,	570	840	720	420
Urea,	218	188	228	121
Albumen,	—	155	134	39

Thus we see that the solid matter in No. 1 and No. 2 is far above the average of health; that the quantity of urea is nearly as much below it, except in No. 2, where it is in excess; and that there is a large proportion of albumen, although diminishing with each specimen. It may fairly be presumed, I think, that the disproportion of these constituents was even more remarkable at an earlier period of the disease, and for this reason I cannot avoid expressing my regret that I did not bestow more care upon it.

I have said that I did not see the patient after November 22d, but Dr. Duke informs me that she continued to improve slowly up to Nov. 25th, after which, for a few days, she seemed not so well; her intelligence was less, and she seldom spoke, but answered by a nod or a shake of the head; she retained the power of moving the leg, but not the arm.

Nov. 26th.—There was barely a trace of albumen in the urine.

Nov. 30th.—Dr. Duke informed me that our patient is again improving slowly.

Dec. 12th.—Up to this day the improvement had continued; slowly, indeed, but quite marked. Her intelligence was restored, her bodily strength increased, her appetite better; in everything, save the impotence of the arm and leg, she was going on most favorably. During the morning she seemed very comfortable, and was talking cheerfully with her sister. At one o'clock she raised herself to a sitting posture in bed, and took some gruel, feeding herself with her left hand. As she finished, some remark of her sister's excited a fit of hearty laughter, after which she suddenly exclaimed, "Oh dear! Oh dear!" fell back insensible, and expired almost immediately.

Post-mortem Examination, Dec. 14th, 2 P.M., forty-eight hours after death, by Dr. Duke and myself.—There were the usual marks of the gravitation of the blood, but no signs whatever of any putrefactive change; the body was in good condition, and a layer of fat, an inch thick, was found on cutting through the abdominal integuments. The head was first examined: there was no turgescence of the scalp, nor, when the skull was removed, was there anything abnormal detected about the dura mater. On removing this covering we found the superficial vessels moderately congested, except at one part of the anterior lobe of the right hemisphere, which was quite pale and bloodless, with a slight effusion of serum beneath the arachnoid. But the most memorable fact noticed at this stage of our examination was, that every blood-vessel contained bubbles of air, alternating with globules of blood, giving to each vessel a beaded appearance, and this extended to very minute vessels, and to those in the division between the hemispheres. We traced the blood-vessels as minutely as we could with the naked eye, but could discover neither obstruction nor obliteration. The brain was then carefully removed; the upper portion of the spinal marrow and the nerves appeared quite healthy; there was no morbid appearance about the base of the brain; the pons varolii and the parts adjacent exhibited neither congestion externally nor bloody points when cut into, nor any change in the firmness or appearance of their structure; the right hemisphere was healthy throughout, of its usual firmness and appearance, and, when divided, free from vascular points. In the anterior lobe of the left hemisphere, just about the anterior termination of the ventricle, we found the white cerebral substance, and, to a limited extent, the gray matter in the neighborhood, reduced to a pulpy condition, about the density of gruel; the texture was completely destroyed

for about an inch and a half in length by half an inch in breadth; the color was very little changed, was certainly not redder than usual; posterior to the diseased part the tissue seemed quite natural; there was no hardness nor vascularity—nothing, in short, to mark the transition from diseased to healthy structure. Again, in the posterior lobe there was a similar, but smaller, spot of softening, without surrounding vascularity or hardness. We remarked, indeed, that the bloody points generally seen upon cutting through the substance of the brain were less numerous than usual. Dr. Lyons examined a portion of the softened part, and he found nothing but exudation corpuscles, with the debris of cerebral fibres; neither purulent nor serous infiltration; no other morbid appearance was discovered in the brain or cerebellum, and there was not above an ounce of serum escaped.

The lungs were free from adhesions, and perfectly healthy.

The heart was of the usual size, its walls of the ordinary thickness, and its cavities normal and empty; the auriculo-ventricular and aortic valves were complete, perfect, free from vegetations, and of the usual thinness.

On opening the abdomen we found no trace of peritonitis; the stomach, the greater portion of the small, and all the large intestines, were perfectly healthy; in one part of the small intestines we found the coats stained of a reddish-brown color, and the mucous membrane softened and pulpy.

The same reddish-brown color extended to the contents of the pelvis; we found the uterus nearly reduced to its natural size (five weeks after delivery); its walls were of their natural thickness, and apparently healthy; the cervix was dark-colored, and had still a bruised appearance; the cavity contained a thick, gelatinous, reddish-brown fluid, of which some had escaped through the vagina on to the bed; it had no putrid odor, but resembled not quite healthy menstrual fluid; the ovaries were strong and healthy, but the broad ligaments and Fallopian tubes retained an unusually vascular appearance, and in the folds of the ligament was a cyst as large as a grape.

The kidneys were dense, and one much larger than the other; when cut into they exhibited great congestion, and from the divided tubes purulent matter escaped.

The other viscera were perfectly healthy.

ART. 129.—*Case of Double Uterus, with Twins and placenta prævia.*
By Professor HOHL.

(*Prager Vierteljahrsh.*, Bd. 4, 1853; *Gaz. Hebdom.*, Mai 17, 1854.)

Cases of double uterus are not uncommon, but the following case is distinguished from all others by most remarkable peculiarities.

CASE.—A delicate woman, æt. 30, was subject, during the first three months of her second pregnancy, to periodically recurring attacks of uterine hemorrhage, which, although easily checked for the time, returned more violently in the seventh month. At this period her abdomen was found very much distended at both sides, but level in the central region from the umbilicus to the symphysis pubis. Percussion yielded a tympanitic sound in this hollow, and a dull sound on either side. An inch and a half above the pubis the uterus could be felt distinctly, through the parietes, dividing into two parts, of which the one on the right side was largest. Both were convex on their internal, and somewhat concave on their external surfaces; and each resembled in appearance the normal gravid uterus at the full time. In each, the foetal heart could be distinctly heard on auscultation, and the form of a child easily felt by external tactile examination. On internal exploration, the vagina was found quite normal; and at its roof the cervix was felt, short and broad, and having two ora uteri, through both of which the presenting parts of the children could be distinguished. Over the right os uteri was situated one of the placentæ, and a portion of the other projected from the left os. On account of the violent uterine hemorrhage, Hohl induced premature labor, and delivered the children by turning. The right placenta was spontaneously detached, but that on the left side adhered so firmly that it had to be artificially separated. The twins, which weighed three pounds, died almost immediately after their birth. Subsequent examinations

of the uterus, with the sound and the finger, confirmed the correctness of the original diagnosis.

ART. 130.—*A case of Superfoetation.* By M. THIELMANN.

(*Med. Zeitung*, Russl. 1, 1854; and *Medico-Chir. Rev.*, Oct. 1854.)

This case is thus reported by Dr. Barnes:—

A peasant girl, æt. 25, had borne, at 20 and 23, girls. In July, 1852, she became pregnant a third time; menstruation appeared twice after conception. On the 26th of March, 1853, the first pains appeared, and next morning she was delivered of a girl, small but living; the afterbirth came away normally. The lochia ceased in a few hours. The secretion of milk was so scanty, that the child could not be supported by it. Eight days after delivery, the woman returned to her household duties; but she felt in her left side the movements of a second child. On the 18th of May—that is, fifty-two days after the birth of the first child—pains came on, and the birth of a second living girl followed. From this time the secretion of milk went on so freely, that both children derived sufficient nourishment. M. Thielmann says this case was officially certified.

ART. 131.—*Twins of different color.* By Dr. A. F. ATTAWAY.

(*American Quarterly Journal of Medical Sciences*, July, 1854.)

This case is originally related in the *Southern Medical and Surgical Journal* for June, 1854. Dr. Attaway writes:—

CASE.—Mrs. C—, a white woman, the mother of three children, gave birth to twins on the 16th of January, an interval of an hour intervening between the births.

The first born was very dark, and had every appearance of being of African paternity. Not being willing to suggest such a thing, I tried to explain the matter, by attributing the color to cyanosis. At the expiration of one hour, the second child was born, and had very light-colored hair, fair skin, and blue eyes, which made the contrast very striking.

The condition of the mother and children was such, that they required medical treatment for several weeks, during which time I marked the great difference between the children with peculiar interest.

After the recovery of the woman and her children, seeing the African characteristics more and more developed, I asked the mother to give me a correct relation of the circumstances connected with her conception, &c.

After some hesitation, she gave me the following history of her case: She said that five days after the cessation of her last menstruation, she had sexual intercourse with the white man, whom she considered the father of the white child. Three days thereafter, making eight days after menstruation, she cohabited with a negro man, who, she said, was the father of her other child. She assured me that this was the only coitus she had with the negro man for more than one month after she menstruated. If this be true, she conceived at that time.

The precise period of her other conception is less definite, in consequence of the fact that she had connection with the father of her white child, at different times, during the month following her last menstruation.

ART. 132.—*An instance of a Fœtus in Fœtu.* By Dr. C. O. WEBER.

(*Archiv für Path. Anat. u. Phys.*, Bd. vi.; and *Medico-Chir. Rev.*, Oct. 1854.)

This case is very curious.

Matthias Stamratz was born on the 1st Oct., presenting a tumor the size of a child's head attached to the sacrum. The tumor grew perceptibly, stretching the skin, and it seemed certain that the child would gradually sink. It was brought to the surgical Clinique at Bonn on the 30th Nov. 1853. The tumor was immovably adherent, very soft, and seemingly for the most part consisting of fat; but two fingers were plainly felt united to the sacrum by a broad, thick joint; the tumor

was removed; suppuration followed in the wound, but the child eventually recovered, and was sent home at the beginning of 1854. The examination of the tumor showed that the two fingers, which consisted of three complete phalanges, and bore nails, were, by the apparent union of the metacarpal joints and some rudimentary wrist-joints, connected with the sacrum. This formed the basis of the tumor. A very soft, fatty tissue constituted the greater portion. Near the surface was found a cyst the size of a goose's egg, containing about two ounces of fluid, yellowish-green, clear matter. The microscopic examination of this fluid showed blood-globules, epithelial rudiments, and some fat granules. The chemical examination made by Dr. Boedeker exhibited no pyin, fibrine, or albumen. It was identified with what Scherer has described under the name of paralbumin.

ART. 133.—*The determining cause of Parturition.* By Professor SIMPSON.

(*Edinburgh Monthly Journal*, Sept. 1854.)

After stating and refuting the various theories which have been suggested on this point, such as the supposed origin of the act of labor in certain states of vital development or physical expansion of the fundus, body, or cervix uteri, in some supposed conditions of the foetus, liquor amnii, or placenta, Dr. Simpson suggests that the loosening or decadence of the membranes, or membranes and placenta, from the interior of the uterus, may constitute the determining cause of parturition; and that this loosening or decadence is itself the result of the effete degeneration of the structure of the decidua towards the full term of pregnancy. Various circumstances in obstetric physiology and pathology are stated in evidence of this view. It is also so far proved, experimentally, for we bring on labor artificially by imitating this process when we separate the membranes with the fingers or catheter; or when we inject tepid water into the cavity of the uterus, or, in other words, between the membranes and interior of the uterus—the latter a plan which Dr. Simpson has followed in 20 or 30 cases.

ART. 134.—*Statistics of those cases in which Chloroform has been administered in the Rotunda Hospital, since October, 1851.* By Dr. ATTHILL.

(*Dublin Quarterly Journal of Medicine*, May, 1853.)

In this hospital it is not considered necessary or expedient to give chloroform in the ordinary run of natural labors. On the contrary, chloroform was only given—1st. To all cases in which it became necessary to use instruments. 2d. To all cases where version was contemplated. 3d. To a few cases of preternatural presentations of the breech or foot. 4th. In a few instances of protracted labor, where the patient was exhausted from long-continued suffering. 5th. In some cases where the woman seemed to suffer more than ordinary, and was nervous, irritable, or noisy. And 6th. In a few cases of convulsions.

In the first or instrumental group, the value of chloroform can be scarcely over-rated: the patient exhausted, perhaps, by a tedious labor, is restless and impatient, and the idea of an instrumental delivery may have added terror to her already unhappy condition; the forceps, consequent on the above state of necessity, or because of restlessness, may not be applied with facility. Now the anæsthetic influence of chloroform obviates all this. The patient can be easily placed in any convenient position, and the comfort experienced by the operator is only equalled by the fact of the patient's own freedom from pain, and her consolation, on her recovery from the effects of the drug, at finding all cause of anxiety and distress at an end. Chloroform is never omitted in these cases.

In the next class of cases, the beneficial effects of the anæsthetic is equally great; the patient is rendered passive, and version is more easily accomplished from the uterine action being suspended (which is the case as a general rule) for the first few minutes after the full effect of chloroform has become apparent.

In the third set, viz., those instances of breech or footling presentations in which difficulty may be expected in the extraction of the head, from the impossibility of keeping the patient quiet; especially when such presentations occur in primipara,

it has been found useful to administer chloroform when the breech begins to distend the perineum; this practice has been attended with the happiest results.

With regard to the fourth class, it has been found, on several occasions, that when the patient was getting worn out from continued suffering in a labor rather tedious, the most marked benefit followed the exhibition of chloroform; for after having been kept under its influence for a time, perhaps for an hour or two, the woman has awakened much refreshed, uterine action has set in with vigor, and the case has soon terminated happily and naturally.

An example illustrating this remark occurred but a few days since in a primipara in whose case the membranes having ruptured at the very onset of the first stage, tediousness was the result, and when the os was fully dilated, the pains, though incessant and harassing, were so inefficient that they had not power enough to force the head into the brim; the woman, who had, up to this time, been 26 hours in labor, and was much exhausted, was now placed under the influence of chloroform, and its effects kept up for an hour at least. After having slept some time, she awoke refreshed; the pains set in powerfully, the head soon rested on the perineum, and the labor was then cut short by the forceps. Dr. Atthill does not think that the head, in this instance, would have entered the pelvis at all, had not the woman been refreshed by the interval of ease which she enjoyed while in a state of anaesthesia.

With respect to the peculiar effects produced by chloroform, when used to complete anaesthesia, the experience of the hospital confirms the observations made by Dr. Denham, in his paper on this subject, viz., "that uterine action is at first suspended, but that it usually sets in again after an interval of about a quarter of an hour; that the pains return regularly and forcibly, and that the actual expelling power of the uterus is not much, if at all, diminished." Dr. Atthill considers, however, that there is, without doubt, a greater tendency to postpartum hemorrhage in such cases than in those where chloroform has not been inhaled; also, that the uterus does not contract so rapidly or so firmly as usual; and that there is a decided tendency to relaxation in the organ. This, he thinks, admits of an easy explanation, from the fact that, although the "active contractions" of the uterus are not interfered with, the "tonic action" is more or less destroyed, and hence the tendency to flooding; but this tendency has never resulted in anything serious in the hospital practice, due precautions being always taken. Pressure has constantly to be kept up for a considerable time; sometimes it has been necessary to apply cold perseveringly, and as a general rule the binder is not applied till the woman has completely recovered from the effects of the drug.

None of those unpleasant symptoms which have been ascribed to the use of chloroform, have come under the notice of those connected with this hospital. The pulse has never once faltered in any of these cases. In one solitary instance the patient showed symptoms of hysteria after having inhaled a little, and the inhalation was at once discontinued. And, in another case, when just recovering from its influence, the woman had two hysterical fits, but so short and trivial as to be hardly deserving of notice; with, then, these two exceptions (if they can be called exceptions), all these cases, in which chloroform was administered, were without any drawback, so far as the chloroform itself was concerned.

Cases in which chloroform has been administered in the Rotunda Hospital from October, 1851, up to the present date.

No. 1.—FORCEPS CASES.

Total.	Children.			Mothers.			Causes of Death to Mothers.				Rate of Mortality.
	Alive.	Dead.	Dead and Putrid.	Recovered.	Died.	Maniacal.	Peritonitis.	Rupture of Uterus.	Convulsions.	Phlebitis.	
83	69	15	2	78	4	1*	1	1	1	1	1 in 80†

* Subsequently recovered.

No. 2.—CROCHET CASES.

Total, including one Evisceration.	Mothers.			Causes of Death.				Rate of Mortality.
	Recovered.	Died.	Maniacal.	Peritonitis.	Convulsions.	Rupture of Uterus.	Sloughing.	
38	30	8	1*	2	1	3	2†	1 in 46.8

No. 3.—VERSION CASES.

Total.	Children.			Mothers.		Causes of Death.		
	Alive.	Dead.	Dead and Putrid.	Recovered.	Died.	Peritonitis.	Rupture of Uterus.	Convulsions.
13	9	4	0	12	1	0	1	0

No. 4.—FOOTLING AND
BREECH CASES.

Total.	Children.		Mothers.	
	Alive.	Dead.	Recovered.	Died.
2	2	0	3	0

No. 5.—NATURAL CAUSES.

Total.	Mothers.		Children.	
	Recovered.	Died of Peritonitis.	Alive.	Dead.
4	3	1‡	3	1

No. 6.—CONVULSION CASES DELIVERED
ANNUALLY.

Total.	Children.			Mothers.		Causes of Death.
	Alive.	Dead.	Dead and Putrid.	Recovered.	Died.	
2	1	0	1	0	2	2

No. 7.—PROLAPSE OF FUNIS
DELIVERED NATURALLY.

Total.	Mothers.		Children.	
	Recovered.	Died.	Alive.	Dead.
1	1	0	0	1

No. 8.—ALL CASES IN WHICH CHLOROFORM
WAS GIVEN.

Mothers.			Children.			
Total.	Recovered.	Died.	Total, deducting Perforation Cases.	Alive.	Dead.	Dead and Putrid.
143	127§	16	110	85	21	3

"But of this list of 143 cases in which chloroform was administered, there were but 16 deaths; a small proportion, when it is remembered that, with the exception of 7, all were cases of either difficult or complex labor; deducting these from the

* Ibid.

† One an old vesico-vaginal fistula.

‡ Very protracted in first stage, and slow in second. Child dead-born.

§ Including the two maniacal cases, which subsequently recovered.

sixteen fatal cases here recorded, 4 of convulsions, in which chloroform was given as a last resource, and which would have undoubtedly died under any circumstances, we have 12 to dispose of; 4 of these died of peritonitis, of which four, two were so deformed as to have given extreme difficulty to delivery; 5 were cases of ruptured uterus; 2 were destroyed by sloughing of the soft parts, and one of these was the subject of an old vesico-vaginal fistula, in whom the constant dribbling of urine after delivery excited inflammation, which, taking on an erysipeloid form, terminated in the destruction of all the soft parts in the neighborhood of the outlet, as well as those of the passages; lastly, in 1, life was terminated by phlebitis.

"I therefore conclude that, on reviewing the causes of death in such of these anæsthetic cases as terminated fatally, no blame whatsoever can be attached to the chloroform. In the paper by Dr. Denham, before alluded to, he gives two instances where anæsthesia could not be induced; with us chloroform never failed to induce this state, save in one instance, when its use was discontinued; but all the conclusions to which he has there arrived have been fully borne out by this additional experience; in one point only do I differ from him, and that I have already mentioned, viz.; I feel forced to consider that in labor cases, when chloroform is used, there is a great tendency to post-partum hemorrhage."

ART. 135.—*Belladonna as an ecbofic.* By Dr. SOMA.

(*Bull. Gén. de Ther.*, 1854; and *Medico-Chir. Review*, Oct. 1854.)

"Dr. Soma relates three cases in which he gave the extract of belladonna during labor. He attributes to this remedy more energy and quickness of action than the ergot possesses. He observes that a dose unusually large was tolerated with advantage. He gave two or three tablespoonfuls of a mixture consisting of five ounces of the vehicle, and eight grains of the extract, every ten minutes. The cases related do not appear to be sufficiently numerous or precise to be conclusive as to the power of belladonna in exciting uterine contraction."

ART. 136.—*On Symphyseotomy.* By Dr. J. MATTHEWS DUNCAN.

(*Dublin Quarterly Journal of Medicine*, August, 1854.)

The earlier part of this paper is occupied by considerations which tend to show the separation of the pelvic bones during parturition. The soft tissues contributing to form the pelvic joints, soften and increase in thickness in the latter part of pregnancy, and this thickening separates the bones and enlarges the pelvic circle. This softening and thickening, moreover, allows the pelvic bones to move on each other, so that the brim yields as the head passes into it, and the outlet as the head passes out of it. These movements are partly caused, and partly favored by the position into which the woman instinctively falls at the different stages of labor. The results of symphyseotomy, moreover, furnish proof that the pubic bones may be separated to the extent of one or two inches without injury. Reflecting upon these facts, the operation of symphyseotomy appears to Dr. Duncan to be a more *natural* means of proceeding in cases where birth is prevented by pelvic contraction than Cæsarean section or craniotomy. Dr. Duncan writes:—

"The operation of symphyseotomy, as reintroduced to the profession in 1768 by MM. Sigault and Le Roy, is one which has, with justice, been condemned. But the jealousy of the Academy of Surgery, which discountenanced M. Sigault's operation at the first, led the members, after the subsidence of the excitement produced by its first and only occasional successes, to repeat their condemnations of it, and prevented its obtaining a fair consideration. It yet remains to be seen whether the operation, as more broadly proposed, long before Sigault, by Severin Pineau, may not be one which is destined to have a small place among the operations of practical midwifery, devoted to saving the life of the unborn child. In this country the operation received, after its proposal by Sigault and Le Roy, the high sanction of W. Hunter and Denman, so far as its own peculiarities were concerned. But they, at the same time, showed that it could be of very little, if any, service, in the cases for which it was proposed, namely, those of extreme pelvic distortion, where Cæsarean section would otherwise be required. In this condition matters have been

allowed to rest. British obstetric authors have loaded the operation itself with calumnies which are quite unfounded, and raised difficulties about it which are sufficient to deter a superficial inquirer from its consideration.

"There is every reason to believe that the operation, in itself, is one of slight danger at the time, or even ulteriorly, if compared with the dreadful results of craniotomy and Cæsarean section. For the latter operation it can very seldom be a substitute. But it remains to be seen whether the former, namely, craniotomy, may not in some cases be superseded by it. There is every reason to think that the operation would be much less dangerous to the mother than craniotomy, even with the allowance of great freedom in the selection of cases; and it would give a chance of saving the child, whose life is necessarily compromised by that proceeding. Moreover, the operation might probably be simplified by adapting to it the subcutaneous method.

"I conclude these remarks with the following quotation from the most esteemed author in British obstetrics, whose name and influence have contributed greatly to the neglect into which the operation has fallen:—

"'It is proved,' he says, 'in the first place, that some enlargement in the capacity of the pelvis is actually obtained by dividing the symphysis of the ossa pubis.

"'Secondly, that the evils which have followed this operation have been very much occasioned by its being performed unskillfully, or by injudicious endeavors to increase that enlargement of the capacity of the pelvis beyond the degree which naturally follows the division of the symphysis.

"'Thirdly, that many women who have undergone this operation have recovered; though of those who recovered, many suffered very serious complaints for a long time, or for the remainder of their lives.

"'Fourthly, that some children were born living when this operation was performed.

"'We may, therefore, presume to say that if a case could be so precisely marked that there should only be a deficiency of just as much space as would be supplied by the simple division of the symphysis, the operation might in that particular case be considered.

"'We may also say, that this operation is not so certainly fatal to those women on whom it may be performed as the Cæsarean operation; nor so certainly destructive of children as that of lessening the head.

"'We may, then, be allowed to suppose a case, and such a one is more than possible, in which a person of very high rank, the life of whose child may be of the greatest public importance, could not be delivered without the destruction of the child, or her child be preserved but by the Cæsarean operation at the expense of great hazard of her life; and that she, through human frailty, might refuse to submit to the Cæsarean operation, yet the great interests and policy of the nation might forbid the destruction of the child. Of course both the mother and child would be inevitably lost. Should such a case occur, which, as I said before, is more than possible, then the section of the symphysis of the ossa pubis, might be proposed and performed, as it would in some measure meet both these interests; being less horrid to the woman than the Cæsarean operation, and, instead of adding to the danger, give some chance of preserving the life of the child.'"

This testimonial from the eminent and sagacious Dr. Denman, is the more extraordinary, as he is an author who joins strongly in the cry against the operation, and expressly says, in regard to the above passage quoted from his own work on Midwifery, that he does not "mean to insinuate a wish or advance an argument in favor of this operation, in the cases for which it was originally proposed, or any other which can be imagined.

"The last paragraph of the passage just quoted gives in few words a general notion of the cases to which this operation may yet be adapted. But it must be remembered that, in our day, a section of this class of cases has already been provided with a suitable retreat in the operation of premature labor; an operation, however, whose use is not inconsistent with the simultaneous use of symphyseotomy."

ART. 137.—*Cases of Cæsarean Section.* By (1) MM. BARJAVEL, of Carpentras, (2) BAZZONI, (3) PAGENSTECHER, (4) HAMER, (5) GIORDANO, (6) ÁNGULO, (7) GILMAN, and (8) KILIAN.

1. (*Rév. Thér. des Méd.*, 1854; and *Med.-Chir. Rev.*, Oct., 1854.) 2. (*Gaz. Lomb.*; and *Edinb. Monthly Journal*, Oct., 1854.) 3. (*Gaz. Hebdom.*, Sept. 22, 1854.) 4. (*Schm. Jahrb.* Ht. 7, 1854; and *Edinb. Mon. Journal*, Oct., 1854.) 5. (*Gaz. Hebdom.*, Oct., 20, 1854.) 6. (*El Porvenir Méd.*; and *Phil. Examiner*, Sept., 1854.) 7. (*American Journal of Medical Science*, April, 1854.) 8. (*Prag. Viertelj.*, 1854; *Medico-Chir. Rev.*, July, 1854.)

These cases are unusually fortunate in their results. In four of them the mother and child were both saved. In two the mother was saved. In one the child was saved, and the mother lived for upwards of three weeks; and, in the remaining one, the mother died, it is true, and from sudden hemorrhage, but not until she had *twice recovered from the same operation*. The fate of the child in this last operation is not stated, but the child delivered by the second operation lived for 18 years.

1. *M. Barjavel's Case.*—Madame Crémieux, a Jewess, born about 1788, affected with marked deformity of the skeleton from scrofula, arrived at the end of her first pregnancy in 1812. The child presented by the feet. The late M. Laurens being called by the midwife, tried to extract it, but only succeeded in bringing away the limbs of the trunk, the head remaining in the uterus. M. Barjavel, sen., effected the delivery by Cæsarean section, and the woman recovered between the 30th and 40th days. On the 27th Feb., 1815, she was again in labor. The child presented by the back, and became impacted. M. Barjavel performed the Cæsarean operation again. The child was suckled by the mother, and it survived until 1833. On the 22d of April, 1819, she was again in labor. On this occasion a young surgeon, recently arrived from Paris, was called, and he performed Lauverjat's operation of the transverse section on one side of the abdomen, and without success; the patient sinking from hemorrhage on the same day.

2. *M. Bazzoni's Case.*—The patient, who was a strong, well-made woman, unaffected by rachitis or any other constitutional malady, was first delivered of twins. Thirteen months thereafter, the author delivered her again of a child, which, from its presenting with the shoulder, was extracted by turning and forceps. In her next labor, which happened two years after this, Bazzoni found the diameter of the pelvic outlet contracted to 2½ inches by a tumor firmly attached to the promontory of the sacrum. The Cæsarean section was performed, and a dead child, with a small but well-formed head, extracted. The mother, then in her twenty-third year, was bled, and ice applied; and in 29 days she was quite recovered. Another pregnancy occurred, and the author, examining her in the fourth month, found the tumor increased in size, and the os uteri situated very high in the pelvis. He induced premature labor by rupturing the membranes, and in a few days the patient was quite well.

3. *M. Pagenstecher's Case.*—Madame Hammes, æt. 33, became pregnant for the fourth time after an interval of five years. During her last pregnancy she became subject to rachitis. On examination, the pelvis was found to be so distorted that it was barely possible to introduce the tip of the finger between the symphysis pubis and the sacrum, and there was no alternative but to perform the Cæsarean section. This was done on the 9th of Sept., 1852. Afterwards, compresses and a bladder full of ice were applied to the abdomen, and the recovery was not retarded by any unfavorable symptoms. On the 3d of Nov., she got a severe cold on going out to the baptism of her child, but this yielded to treatment, and she got well eventually.

4. *M. Hamer's Case.*—The patient was a primipara, æt. 30, who in early life had been affected with rachitis. Labor pains commenced, at the normal end of pregnancy, on the 2d February, 1853, which were regular and normal, both as to length and frequency. At 8 P.M. the membranes burst; but owing to the head not descending into the pelvis, and the pains becoming arrested, it was thought advisable to resort to turning. The hand could not be introduced, however, for want of space between the pubis and the promontory of the sacrum, the distance between them being

only 2½ inches. To save the life of the child, the Cæsarean section was performed at 11 P.M. The external incision was made along the linea alba, but on laying open the uterus it was found that the knife had divided the placenta, thereby causing a considerable amount of hemorrhage. The extraction of the placenta and the child occupied only a few seconds, and the uterus thereafter became firmly contracted. The child, a boy, survived the operation. The edges of the incisions were united by sutures, and a bandage was applied. Next evening, considerable pain was felt in the hypogastric region, but emptying the bladder by means of the catheter gave instant relief. This was afterwards done frequently with great benefit to the patient. On the 4th Feb., the abdomen was tympanitic (meteorism), the tongue was dry, and the pulse frequent; but the lochial discharge continued quite normal. Enemata were ordered, and also the application of ice. Next day there was considerable abdominal tenderness, and vomiting of green matter; the violence of the vomiting caused three of the sutures to give way, whereby the protruding uterus was exposed at the bottom of the deep gaping wound. Twenty leeches were applied to the tenderest part of the abdomen, cold applications were ordered, and the edges of the wound were brought together by means of adhesive plaster. The enemata formerly ordered having failed in giving relief, an elastic tube was introduced into the rectum, which evacuated a great quantity of gas; and an enema was thrown up by means of it into the bowels, which caused a copious dejection of fæces. Thereafter the meteorism was diminished, the pain abated, and the vomiting ceased. A quarter of a grain of morphia was then administered, which induced sleep. The strips of plaster being insufficient to maintain effective union between the edges of the abdominal wounds, the following device was adopted to insure their adequate support: Two pieces of wood, having three silk threads attached to each, were rolled in long strips of plaster. These strips were so applied, from the lumbar region, that the pieces of wood lay longitudinally on the mesial line, closely embracing both sides of the wound. The silk threads were then tied, and the aperture was completely closed. Next night the patient was easier and free from pain; the secretions were once more established, and in six weeks after this time her recovery was complete.

5. *M. Giordano's Case*.—The patient in this case was 19 years of age, and very rachitic. The confinement was her first. When very young a carriage had run over her and broken both her thighs, and injured her pelvis. When admitted into the Maternity Hospital, at Turin, she had been thirty-six hours in labor. The pelvic contraction was such as to necessitate the Cæsarean section, and this was done on the 5th of May last, and a living child extracted by the breech, with little loss of blood, and without any great shock to the mother. All went on favorably for the first thirty-six hours, and then violent peritonitis set in. For this, vigorous depleting measures were adopted. Some days afterwards a considerable quantity of blood, mingled with pus, escaped from the lower part of the wound. After this, matters went on favorably up to the 19th day, when phlegmasia dolens and fever set in. The patient finally sank on the 26th day after the operation.

It appears that the Cæsarean section has been performed thrice previously in the same hospital during the last sixteen years, and that in each case the mother died of peritonitis during the first three or four days.

6. *M. Angulo's case*.—M. Angulo's patient was 37 years of age, a wretchedly weak and rickety dwarf, in labor for the first time. The labor had already lasted four days. The patient had not much attention after the operation, but perhaps this is not to be much regretted. The operator thus writes:—

“The patient was placed horizontally on a table, and I made in the direction of the linea alba, an incision which extended from four lines below the umbilicus to the symphysis pubis; and then cutting the muscular parietes, and introducing at the upper angle of the wound my left index finger to serve as a conductor, with a blunt-pointed bistoury, I incised the peritoneum to the extent of the external wound. I had made scarcely half of this incision when an ounce of clear water escaped, which at first I believed proceeded from the bladder, but afterwards, saw that it did not. The opening of the integuments was about six inches long, and through it the uterus could be perceived, of a rubicund appearance. I made a small incision through its inferior part, through which I introduced the extremity of my left index, and then cutting from below upwards, to the extent of five inches, I

saw the foetus presented the back and buttock. As the incision did not extend to the insertion of the placenta, no hemorrhage supervened; I gently extracted the child from the womb. It was alive, and a female of moderate strength and constitution. The uterus contracted the moment the secundines were removed, and by aid of a gentle pressure, exit was given to a small quantity of blood which had entered the cavity of the abdomen, avoiding hernia of the intestines, by approximating the edges of the wound. The patient, who did not complain during the operation, was perfectly tranquil. The wound was dressed with a suture and adhesive straps, over which dry lint and compresses were applied, the whole sustained by a bandage around the body. As I could not visit the patient daily, I left instructions with the husband. I did not return to see her till after eight days; and I found her without fever, the lochia flowing well, and sufficient milk in the breast to suckle the child. At the end of thirteen days, only a small point remained to be cicatrized, and this was abandoned to nature: in a word, in a few days the patient was perfectly re-established, with plenty of milk, and the child in a very satisfactory condition."

7. *Dr. Gilman's case.*—In this case gastrotomy was performed twenty-one hours after rupture of the uterus, and a dead child removed from the abdominal cavity, with a successful result. The case is useful both for warning and instruction. Dr. Gilman writes:—

"Mrs. Hickey, an Irish woman, aged about thirty years, of small stature, spare habit, and delicate constitution, was taken with labor pains, her third confinement, early in the morning of September 24, 1853. Her previous labors were severe and protracted, especially the second, when the child was taken with forceps, while the mother was suffering with puerperal convulsions.

"Her physician, on the present occasion, informed me that he was called at 10 A.M.; labor pains were then frequent and regular; the os uteri sufficiently dilated to admit the end of his finger; the membranes entire; the head presenting. Her pains increased in strength and frequency through the day, although they accomplished but little; the os, at 9 P.M., being rigid, and dilated only to the size of a quarter of a dollar; the head remaining in the superior strait.

"At 11 P.M., after a pain of great severity, the patient complained, suddenly and urgently, of great abdominal distress; and there was an entire cessation of uterine pains. He, believing labor was suspended, and that his services would not be required for the night, left his patient at twelve. He was summoned again at an early hour in the morning, and found her free from uterine pain, but having the same indescribable abdominal distress. Considerable flowing had occurred, and she was somewhat exhausted. On examination per vaginam, the presenting part was found to have receded—the head could not be felt. He administered stimulating drinks and ergot in repeated doses, with the hope that they would excite uterine action. Failing to accomplish this, and conscious that something of a serious nature had occurred to his patient, he called Dr. Durgin, of this city, in consultation. After making a careful examination, Dr. D. suspected that the uterus was ruptured, and the child had escaped into the cavity of the abdomen.

"I was called to the case late in the afternoon of Sunday, with Drs. Davis, Thomas, and Le Prohon. We found a rent of the uterus, extending from the os upwards and backwards, and the organ itself firmly contracted. No part of the child could be felt. The abdomen was enormously distended, and so tender that she could not bear the slightest pressure upon it. She was in great distress, and entreated earnestly for relief.

"The deplorable situation of the patient was faithfully represented to her and her friends, and the operation of gastrotomy proposed as affording the best, if not the only chance of recovery, which was readily assented to.

"The patient was removed from her bedroom to a spacious adjoining chamber, the temperature of which had been raised to about 80°, and placed upon a mattress resting on two firm tables. Pure sulphuric ether was first administered, but failing to produce its anæsthetic effect, chloroform was substituted, and the patient soon brought under its influence.

"The water having been drawn from the bladder by the introduction of a very small gum-elastic catheter, assisted by the gentlemen before mentioned, I made an incision through the abdominal parietes, commencing an inch above the umbilicus,

and extending down along the inner edge of the left rectus muscle to within an inch of the pubes. The back of the child presented to the parietes, the head resting on the pubes.

"The abstraction of the child and placenta was soon accomplished; coagula, and the fluids effused into the cavity of the abdomen, were expelled through the aperture. The divided surfaces were carefully brought together and secured by ligatures and adhesive straps, and a wide flannel swathe placed around the abdomen. The child was of large size and well formed, and had remained doubtless in the abdominal cavity from 11 P.M. Saturday, till 8 P.M. Sunday—a period of twenty-one hours.

"The patient soon recovered from the effect of the chloroform, and expressed herself as being entirely free from distress, and not feeling so much exhaustion as after her previous confinements; and, indeed, the vital powers did not seem so much depressed after as before the operation. An opiate was administered, and our patient, hopeful and happy, was left in the care of faithful attendants for the night.

"Monday morning, 26th.—Patient slept well; free from pain; but little tenderness or fulness of the bowels; pulse 90, with good expression of countenance; evening, the same.

"Tuesday morning, 27th.—Pulse 95; slept part of the night; abdomen more swollen and tender; directed an enema of castor-oil and the oil of turpentine, and the application of strong mercurial ointment to the abdomen, covered with oiled silk. Evening. Enema operated well, and gave sensible relief.

"Wednesday morning, 28th.—Passed a sleepless night; increased abdominal swelling and tenderness; pulse 105; increased thirst; regurgitation of drinks from the stomach. Evening. Thirst and fever augmented; bowels tympanitic, with almost constant surging of wind, and regurgitation from the stomach.

"Thursday morning, 29th.—Passed a very restless and uncomfortable night; pulse 112, with increased tympanitis, tenderness, &c.; regurgitation of yellow bile; sufferings augmented by bronchial irritation and cough. Directed an ounce of castor-oil to be given with a drachm of oil of turpentine. Evening. Cathartic operated powerfully, and with great relief to the patient; pulse 105; bowels softer, and less tender; all the symptoms better.

"Friday morning, 30th.—Had a good night, with some quiet sleep; pulse 105. In the afternoon, all the distressing symptoms before enumerated returned with increased severity, and continued till 10 P.M., when a spontaneous diarrhoea came on, with very decided relief to the patient.

"Saturday morning, Oct. 1st.—Pulse 100; diarrhoea continues; symptoms more favorable; patient pronounces herself better.

"Sunday morning, 2d.—Patient better; diarrhoea continues, but not to such a degree as to require any interference.

"Monday morning, 3d.—A decided improvement in every respect; all the symptoms highly favorable.

"The patient continued to improve daily. The mercurial ointment was discontinued on the tenth day, having made a decided impression upon the system. The external wound, at that time, had united at several points, and presented a healthy appearance. The convalescence was rapid and uninterrupted. The patient was able to sit up on the fourth week, to walk about her chamber on the fifth, and to resume her domestic duties on the seventh.

"At the present time, more than four months since the operation, Mrs. Hickey is in excellent health, and fully competent to discharge all the duties—laborious as some of them are—which belong to her humble condition in life."

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 138.—*On the treatment of Leucorrhœa by the local application of the powder of tris-nitrate of Bismuth.* By M. E. CABY, Interne à l'Hôpital St. Lazare.

(*Rév. Méd. Chir. de Paris*, Aug., 1854.)

The success of M. Monneret, in the treatment of diarrhoea and dysentery by large

doses of tris-nitrate of bismuth, has led M. Caby to try the same treatment in leucorrhœa and analogous discharges; and, according to his own statement, his success has been no less marked.

His plan is, to cover the whole vaginal mucous membrane with the dry powder of the tris-nitrate. In order to do this, he introduces a speculum, and, beginning at the cervix uteri, he powders the whole course of the passage from above downwards, as he withdraws the instrument. He applies the powder by means of a small pledget of *charpie*. This he does once a day. M. Caby states that this treatment answers equally in acute and chronic, in specific and simple disorders, and whether the mucous surface be broken by ulceration or not. He states, further, that it causes no pain, and that its action is almost immediate. M. Caby intends to publish a memoir on the subject presently.

M. Caby also states that the tris-nitrate, suspended in water, injected into the urethra, and detained there until it has had time to become deposited on the mucous membrane, is equally efficacious in putting a stop to gonorrhœa or gleet in man, and that the duration of the treatment by this means varies from 4 to 10 days.

ART. 139.—*On the use and abuse of Potassa fusa and Potassa cum Calce, in the treatment of Uterine disease.* By Dr. HENRY BENNETT.

(*The Lancet*, July 15 and Aug. 5, 1854.)

In this paper, Dr. Bennett begins by remarking, that it is now more than nine years ago since he first introduced potassa fusa, and potassa cum calce to the profession, as valuable agents in the treatment of uterine inflammation. They had since been adopted by many practitioners, but, from some cases he had seen, he had reason to believe that they were not always used with the care and caution which were imperatively required, and he was, therefore, anxious to lay down, even more carefully than before, the rules which ought to regulate practitioners who resort to so powerful an agent. After using, for many years, pure potassa fusa, or potassa cum calce paste, he had managed to obtain cylinders of potassa cum calce, in the proportion of two parts of potash to one of lime, which did not deliquesce, and were nearly as manageable as nitrate of silver, and therefore free from many of the objections urged against potassa fusa. The conditions of local uterine disease, in which he considered that caustic potash, or the actual cautery, the action of which was identical, was applicable, were the following: Chronic inflammation or inflammatory ulceration of the mucous membrane covering the cervix, or lining its cavity, intractable to other treatment; chronic inflammatory hypertrophy of the cervix, also intractable to other means; and, lastly, chronic inflammation of the body of the uterus, in which form of disease the potash is merely applied to the cervix to produce a derivative issue, as we should apply an issue to the back in disease of the spine. In the first class of cases, the caustic potash is used with a view to modify the morbid vitality of the diseased tissues, and to substitute a healthy reparative action instead. In cases of hypertrophy, the elimination of a moderate-sized eschar on the enlarged cervix is attended with acute congestion or inflammation of the subjacent hypertrophied tissues, and under its influence the latter soften, and melt, as it were, or are absorbed. The object was not by any means to destroy the enlarged cervix, but to procure its absorption as above. When applied to the cervical canal, the caustic potash reaches the mucous follicles concealed between the rugæ of the arbor vitæ, which are occasionally the seat of chronic inflammation, and resist every other means of treatment. Although looking upon the use of caustic potash as one of the most valuable contributions ever made to uterine pathology, he wished it to be well understood that he considered it an *ultima ratio*, a last resource, only to be employed when all other means of treatment, general and local, had failed. If used cautiously, there was no danger whatever incurred by the patient; but if incautiously or imprudently employed, serious results might follow. Thus, the inflammation produced in the cervix might pass to the uterus. He had known also the vagina compromised by the extension of the caustic to it, and had seen several cases in which the potash, having been employed too freely to the cervical canal, the os or canal had been nearly obliterated by its subsequent contraction, and by the adhesion of its parietes. To prevent these accidents, he

advised practitioners never to attempt to destroy the hypertrophied cervix, as had been proposed, but to be satisfied with producing the eliminatory inflammation already described; to use the potassa cum calce cylinders, which do not deliquesce and run; and when the potassa is applied to the cervical canal, to apply it very gently, and to pass a bougie through the canal once or twice a week for six weeks after. By adopting these precautions, no fear of any accident need be entertained. This means of treatment, however, he only recommended when other treatment, general or local, had failed to restore the diseased organs to a natural state. He never resorted to it in passive hypertrophy, either of the cervix or uterus, which he thought might be safely left to nature, time, and general treatment. It had been often stated that the use of caustic potash to the cervix left indurated cicatrices, which might impede subsequent labors. This was by no means the case; so far from producing induration, this mode of treatment melted and removed it, and facilitated parturition. Indeed, he was becoming more and more convinced of the truth of a statement he had made many years ago, that rigidity of the os in labor was nearly always the result of previous inflammatory disease.

ART. 140.—Case of Hydrometra. By Dr. LEWIS SHANKS, Professor of Midwifery in Memphis Medical College.

(*American Quarterly Journal of Medicine*, July, 1854.)

Cases of this kind are so uncommon, that their existence is doubted by some authorities in obstetrics. It is important, therefore, to preserve all the marks which may serve in the diagnosis, and thus we give the case without abbreviation. Dr. Shanks writes:—

CASE.—The subject of this case, Mrs. W., was about fifty-three years of age, of sanguineous temperament, tall, and rather slender, of more than ordinary intelligence and physical energy; she had given birth to, and raised, ten children. The youngest was born in 1841, twelve years since; soon after which she lost her husband, and remained a widow six or seven years. She has been married to her present husband five or six years. Menstruation ceased at the age of forty-seven or forty-eight, about five years since. Previous to, and for three years after the cessation of her menstrual periods, her health was good.

She was attacked two years ago with an acute bowel affection of a dysenteric character, which became chronic and protracted, and, as she supposed, originated uterine disease.

The first symptoms of the disease of the uterus supervened upon the chronic dysentery, and consisted of a tumor in the lower part of the abdomen.

This uterine tumor, though somewhat sensitive upon pressure, did not produce for months much inconvenience, either from its size or tenderness. Twelve months since, however, she was induced to consult her medical attendant, and subsequently several physicians. Different opinions having been expressed to her, as to the organs involved, and their true pathological state, and the enlargement of the abdomen having increased so much as to make her condition very uncomfortable, she came to the city for the purpose of consulting, and putting herself under the treatment of Dr. Fruyser and myself.

Upon a careful examination of her condition, and the history of her case, we were satisfied that the great enlargement of the abdomen was produced by the expanded uterus, and that the large amount of fluid in the uterus was contained either in its proper cavity—the internal opening of the cervix being occluded—or in a large intra-uterine cyst, which expanded the organ. This diagnosis was made from the very distinct abdominal fluctuation produced by palpation, and from the expanded condition of the cervix and lower segment of the uterus, ascertained by the vaginal and rectal examination. Though the enlarged and expanded state of the lower portion of the uterus was certainly ascertained to constitute the lower portion of the *great* tumor which filled the abdomen, there was so much hypertrophy and induration of this portion of the uterine walls, that no distinct fluctuation at the point of vaginal touch could be produced by abdominal palpation. The os was low down in the pelvis, and could readily be reached above the posterior commissure of the vulva; and though the walls of the cervix were abruptly expanded and

greatly consolidated, the first phalanx of the index finger could readily be introduced into the os.

Having made this diagnosis of the case, it was decided that the occluded cervix, or the cyst within the cavity of the womb, should be opened the next day, and the contained fluid drawn off, as there was danger, from the great distension of the abdomen, of a rupture of the womb. There was no ulceration of the os, no ichorous or offensive discharge, indicating either concealed ulceration or malignant disease, though the induration and thickening of the walls of the cervix were unusually great, and, to the touch, of almost cartilaginous hardness.

February 6th, 1854.—After an unsuccessful effort to introduce a common-sized metallic bougie, and different-sized catheters, I resorted to the common-sized uterine porte-caustique. After bending the end of the staff, which projected an inch and a half through the canula, so as to enable me to push it upwards and forwards behind the pubes, in the direction of the axis of the cervix, and towards the centre of the tumor, I succeeded, by using a moderate degree of force, in passing it two inches into the cervix; then meeting with elastic resistance, produced by the cyst, I forced the point of the staff in the direction of the centre of the tumor, through the cyst, into its cavity; the canula was then pushed into the cavity of the cyst, and the staff withdrawn.

Two ounces of a thick and gelatinous fluid, of a brownish color, like honey, were evacuated. The staff was again introduced through the canula, and pushed into the large cyst, when eighteen pints of sero-sanguinolent fluid were drawn off without further difficulty.

The hypertrophied walls of the cervix were so consolidated as to nearly close the opening or channel through the neck, and to embrace firmly the canula, though not larger than a small-sized catheter. This narrow channel from the os, through the cervix to the cavity, was two inches or more, and clasped the canula so tight as to require some force for its withdrawal; and the density of the cyst was rendered obvious by the very perceptible jerk produced by its walls slipping over the end of the canula when it was withdrawn.

After the water was discharged, the hypertrophied and indurated state of the neck and lower segment of the body of the uterus was more manifest and better defined. The general structure of the uterus was soft and flabby, and remained uncontracted; but the thickened and indurated neck and lower segment of the body projected up on the sides in the iliac fossa, so as to form on the lateral uterine walls, a distinct circular ridge, like the sides of a bowl. This indurated portion of the womb was attached by adhesive inflammation to the pubes and other surrounding parts, so as to fix the womb firmly in its position. The chief pain and soreness, during the progress of the disease, and at the time of the operation, was in this indurated portion and the surrounding tissues to which it was attached. For several weeks before the operation, the great distension of the womb and enlargement of the abdomen, not only made her constantly uncomfortable, but disqualified her from turning in bed, without raising herself up, so as to prevent the dragging and pain produced by it in the lower portion of the tumor and its surrounding parts.

After the womb was evacuated she was much more comfortable, and continued so until the fluid accumulated again. Though quietude, laxatives, and alteratives were instituted to prevent inflammation, and the accumulation of the fluid, in a month she was again so much enlarged as to require another operation.

On the 7th of March, I drew off, in the same way as by the first operation, fourteen pints of fluid. Though not so large as before, her stomach and general health were more impaired. The fluid presented more the appearance of an admixture of pus and mucus, or albuminous matter with the serum, being thicker and more tenacious. When the cyst was evacuated, I injected through the canula about 20 oz. of water, with $\mathfrak{z}\text{ij}$ of tr. of iodine added to it. This was agitated in the sac a few minutes and then withdrawn.

As a general course of treatment, she was then directed to wear a tight flannel abdominal bandage; twice a day to paint the hypogastric and iliac regions with the tr. of iodine; to take at bedtime, as an alterative and tonic, a pill containing proto-iod. hydrarg., extr. colocynth. comp., extr. cinchon., each, a grain, and 8 drops of syr. ferri iod., three times a day. Under this course her general health improved, and the fluid accumulated much slower.

April 16th.—Six weeks since the last operation; she came in her carriage from

her home, about twenty miles, to the city. Though the womb was very much distended again, her general health was much better. Being desirous to try the effect of Bailey's Spring, near Tuscumbia, Ala., a water of much celebrity in dropsical cases; to prepare her for her journey, and for the more favorable action of the medicinal water, I drew off eighteen pints of fluid again on the 17th of April. It presented less appearance of the admixture of pus or mucus with the serum, than at any previous operation. I injected again about ℥xx of water, with ℥iv of tr. of iod. This produced a slight diffused sensation of burning in the cavity of the sac, which soon passed off, and she felt very comfortable after it.

The second and third operations indicated less consolidation and contraction in the cervix, but the dense membranous cyst was more obvious and resisting to the blunt end of the porte-caustique staff, requiring considerable force to puncture it and penetrate the cavity.

Since her departure from here, on the 19th of April, three days after the operation, I have not heard from her.

ART. 141.—*The surgical treatment of certain fibrous Tumors of the Uterus, heretofore considered beyond the reach of art.* By Dr. WASHINGTON L. ATLEE.

(*Transactions of the American Medical Association*, 1853; *Med.-Chir. Rev.*, July, 1854.)

The following analysis is from the pen of Dr. Barnes.

In this essay, which is a prize essay, Dr. Atlee puts forth some rather bold innovations in the surgical treatment of fibrous tumors of the uterus. He classifies these tumors according to their situation, into extra-uterine, intra-uterine, and intramural. He does not appear to regard tumors of any kind or situation to be beyond the reach of surgical treatment. He believes that the true fibrous tumor occasionally degenerates into cancerous disease.

One of Dr. Atlee's principles of treatment is based upon the following view: "These tumors are very imperfectly organized; consequently their vitality may be very easily destroyed. A section made through their thin investing membrane will sometimes be followed by the death of the whole mass. This may be owing to the admission of atmospheric air causing it to degenerate. Indeed, it would appear that the action of the oxygen of the air, like a portion of yeast in a fermentable mass, may originate, in any part of a fibrous tumor, an action of eremacausis which may extend throughout the whole."

Another mode of treatment is thus stated: "The excessive hemorrhages which sometimes occur, arise not from the uterus itself, but from the vessels of the membrane which covers the tumors. These floodings, I think, occur in this way: the veins of the investing membrane become at times greatly engorged, in consequence of their circulation being impeded by the muscular action of the uterus, while the arteries, by reason of their more resisting coats, continue to supply them with blood. The point of least resistance must necessarily be at the os uteri, as all other parts are compressed by the contracting uterus. The veins on the surface are thus distended. The mucous membrane is delicate, and offers but little resistance in the rupture of these vessels. Now the practice which I wish to inculcate, as based upon the above fact, and which has invariably arrested hemorrhage instantaneously, is, *during hemorrhage to pass the bistoury along the vagina into the cavity of the uterus, and make a very free incision into the most exposed portion of the tumor.*"

As the most comprehensive way of conveying some idea of the operative proceedings of Dr. Atlee, and their results, we extract the headings of the cases related, with brief remarks in illustration.

CASE 1.—"Mrs. M., æt. 49; tumor intra-uterine, nearly its entire surface sealed to the interior of the uterus, even down to the edge of the os tincæ; *the whole tumor removed*; supposed weight, ten pounds; recovered; death subsequently from inflammation of the lungs." The plan resorted to, was by successive operations to separate the adhesions, and to force the tumor into the pelvis by ergot. Portions of the tumor were then cut off by the bistoury. The next step was to bring away pendulous portions with the cranial perforator. After persisting in this course for a considerable time, the uterus being supported externally, Dr. Atlee "succeeded in breaking up the whole internal structure of the tumor, and in scooping out a large

quantity of it." This proceeding was repeated some days after. Every one will share the regret expressed by the author, "that an imprudent exposure to cold, and a subsequent alarm, interfered with the recovery of the patient, by establishing a fatal disease in the lungs at the very moment when the patient herself, her friends, and the surgeons were congratulating themselves on the successful issue of this unique case."

CASE 2.—"Mrs. J. M., æt. 49; tumor intra-mural, having been developed in the posterior wall of the uterus, and expanding that wall into a cyst inclosing it; *the whole tumor removed*; supposed weight, four or five pounds; recovered." A sketch illustrating this case represents the tumor very much larger than the uterus itself. A similar treatment by ergot and incisions through the tumor was adopted. Dr. Atlee remarks, that although a long and deep section of the tumor and its coating was made, no hemorrhage followed, notwithstanding severe floodings had previously occurred. The operation attempted was that of enucleation; but the greater portion of the mass gradually wasted away by a species of decomposition.

CASE 3.—"Mrs. J. M'B., aged 30; tumor intra-uterine; os tincæ thick and closed; whole tumor removed; supposed weight, six or seven pounds; recovered. Subsequent reproduction of the tumor; again removed; recovered."

CASE 4.—"Miss M. T., æt. 33, tumor intra-uterine, its entire surface intimately incorporated with the interior of the uterus; *its removal attempted by gastrotomy*, which failed; subsequent recovery, and an attempt made to remove it per vias naturales; death from erysipelas."

CASE 5.—"Miss M. B., æt. 36; tumor intra-uterine, and distended the uterus to the size of full pregnancy; os tincæ closed; cervix entire and dense; orifice very small; the whole tumor removed; supposed weight eight or nine pounds; recovered." Ergot, detachment of the adhesions, and cutting into the substance of the tumor, so as to induce decomposition, were the means employed. The cervix uteri was first incised, so as to facilitate its expansion.

CASE 6.—"Mrs. S. B. K., æt. 42; tumor intra-mural; was developed in the posterior wall of the cervix, expanding it into the form of a cyst; occupied the abdomen to the height of the umbilicus; patient bloodless from repeated floodings, and her life in imminent hazard from present hemorrhage; bleeding ceased immediately on operating (a long bistoury was introduced into the cavity of the uterus, the edge turned backward upon the tumor, the posterior wall of the cervix and os uteri, down through the corresponding wall of the vagina, which formed the antero-inferior covering of the tumor cut through, the tumor incised, enucleation); *removed the whole mass, weighing nine or ten pounds, at once through the os externum*. Death from anæmia."

CASE 7.—"Miss A. B., æt. 49; tumor intra-uterine, and sealed to the interior surface of the uterus, extending to within one inch of the umbilicus; the cervix was lost in the tumor, and the os was firm and ring-like; removed one-third of the tumor; died suddenly from disease of the heart." Operation: ergot, detachment of adhesions, incisions into tumor, incisions of os uteri, crotchet to aid in disintegrating tumor.

CASE 8.—"Miss H. B., æt. 31; tumor intra-uterine, and sealed to the interior of the uterus; very prominent, and extended above the umbilicus; cervix entire, and movable on the tumor; os tincæ closed; supposed weight seven or eight pounds; recovered." Operation: os and cervix opened by the knife; the tumor incised, degeneration (sloughing) induced; ergot.

CASE 9.—"Mrs. E. B., æt. 36; tumor intra-mural; cervix uteri bent against the tumor at an acute angle; operative measures (ergot, incisions of os and cervix, and into tumor) discontinued before the tumor entirely disappeared; recovered."

CASE 10.—"Miss E. K., æt. 35; tumor intra-mural, very prominent above the pubis, extends upwards within 2½ inches of the umbilicus; cervix folded up against tumor; tumor as large as a child's head; removed in detached portions; apparent convalescence; death from peritonitis; disease malignant." Operation, ergot, incision into tumor, partial enucleation, putrefaction induced.

CASE 11.—"Mrs. E. W., æt. 47; tumor intra-mural; the whole anterior wall nodulated from the fundus to the os tincæ; patient perfectly anæmic; incised the whole length of the uterus; recovered." In this case, the removal of the tumor

does not appear to have been undertaken: the incision was intended to arrest the hemorrhage, which it is said to have accomplished.

CASE 12.—“Mrs. E. A. M., æt. 42; tumor extra-uterine or pelvic; the uterus and bladder raised into the abdomen; *gastrotomy*; non-removal of the tumor; recovery from the operation; subsequent operations per *vias naturales*; tumor diminished in size; recovered.” The subsequent operations were—incisions into the tumor, partial enucleation, setting up of *eremacausis*.

CASE 13.—“Mrs. W. G., æt. 62; tumor intra-uterine; attached to cervix; tumor removed; recovered *from the operation*; apprehension of cancerous degeneration.”

CASE 14.—“Mrs. S. G., æt. 49; tumor intra-mural; having been developed in the anterior wall of the uterus, and expanding that wall into a cyst enclosing it; *the whole tumor removed*; supposed weight, seven or eight pounds; recovered.” Operation: ergot, incisions into tumor; partial enucleation; removal of portions by crotchet and forceps; induction of *eremacausis* in remainder.

ART. 142.—*Cases of Ovariectomy*. By (1) Drs. BRADFORD and DUNLOP; (2), PROF. LANGENBECK; and (3), Mr. TEALE.

1. (*American Journal of Medical Science*, April, 1854.) 2. (*Deutsche Klinik*; and *Edinb. Monthly Journal*, Aug., 1854.) 3. (*Medical Times and Gazette*, July 1, 1854.)

Of the three cases which are here recorded, the first two were successful; the last, not.

1. *Drs. Bradford's and Dunlop's case*.—The patient unmarried, and in her 21st year, had suffered from ovarian tumors for 12 years. The tumor, which had never been tapped, was very large, reaching the ensiform cartilage, distending enormously the false ribs, hanging in folds laterally over the spine, pressing up the spleen, pancreas, liver, and stomach, so as to elevate the diaphragm, and contracting very considerably the thoracic space. The tumor had so completely filled up the abdomen that it was difficult to tell upon which side the preponderance lay. The cyst seemed round and smooth, on feeling it through the parietes of the abdomen, and *unilocular* in its character. Upon the anterior superior part of the tumor above the umbilicus there was a hard *bony substance*, evidently imbedded in the sac, and seemingly about the size of the bottom of a saucer. The patient's health had suffered considerably, and lately she had had several attacks of peritonitis. The operation was performed on the 14th June, 1853. The patient was placed upon a table with the shoulders slightly elevated, the feet resting on a chair, and when sufficiently under the influence of chloroform, an incision through the *linea alba*, below the umbilicus, of about five inches, was made; the integuments, layer by layer, were carefully divided, until the ovarian cyst was exposed to view, which may be readily known by its remarkably bright glossy appearance; then by the use of the fingers and the probe-pointed bistoury, the incision was carried upward two inches above the umbilicus, and downwards to the pubis. The hand being now introduced and carefully glided round over the cyst, it was found that a strong adhesion to the omentum existed at the upper part of the tumor; and believing it to be safer to divide all adhesions except at the base of the tumor, before puncturing the sac, I was compelled to extend the incision four or five inches higher, which made an incision in the aggregate over the tumor of from eighteen to twenty inches in length. The bands connecting the tumor to the omentum proved to be large and very firm, and were inserted by several points into the *bony substance*, which had been recognized before the operation. It required considerable force to break up the adhesion, which was done by Dr. Dunlop, my assistant, with the fingers and handle of the scalpel. Very little hemorrhage occurred from so large an adhesion, so little, indeed, that no ligature was applied. The most pendant part of the sac between the umbilicus and pubis was now punctured; whilst an assistant placed the palms of his hands along the edges of the wound, immediately opposite to the puncture, to prevent the escape of fluid into the abdominal cavity, and with the extremities of the fingers gradually compressed the walls of the tumor, to expedite the escape of the liquid contents. After drawing off a considerable quantity of the straw-colored liquid, we attempted to raise the tumor out of the abdomen, but finding it yet too heavy to handle, we determined to draw off what fluid still remained. This being done, Dr. Duke placed

his forefinger in the orifice punctured, which enabled us readily to get to the base of the tumor, where, fortunately, there were no serious adhesions. Lifting the tumor from its cavity, the pedicle was transfixed with a needle armed with four strands of saddler's silk; the ligature was then divided at the eye of the needle, and each segment of the pedicle securely tied. The neck of the pedicle being very short, it was divided close to the sac, which is probably the safest, be it long or short.

On examination of the tumor, which weighed forty-one pounds, the hard substance spoken of as felt through the walls of the abdomen, proved to be *perfectly-formed bone*, as large as the bottom of a saucer. The surface of the sac, on the inner and front part, was rugous and uneven, studded over with innumerable small particles of bone, varying in size and shape from that of a thumb-nail, down to that of a pin's head; whilst that part lying next to the back was smooth, without any appearance of osseous degeneration. At the bottom of the tumor, that part lying in the pelvis, there were several small fleshy tumors of various sizes, from that of a cocoa-nut to that of a hen's egg. On cutting into these tumors, a little jelly-like fluid escaped, and within each one there were found to be a series of still smaller sacs of various shapes. Extending the examination still further, and cutting into these tumors each one had its little group of tumors still smaller and smaller, each one, however small, containing its group, and, when opened, manifesting the same curious variety of shapes.

The recovery was uninterrupted, except by a cough on the ninth day. The ligature came away in the sixth week, a week after she had returned home. And seven months afterwards she is reported as in good health, and a gainer by forty pounds in weight.

It appears that the same gentlemen have operated successfully in four such cases.

2. *M. Langenbeck's case*.—An unmarried female, æt. 34, for five years, had a gradually enlarging ovarian tumor, which at length attained so great a size that the abdomen was as distended as it is at the end of pregnancy. This tumor extended from the pelvis to below the false ribs; it was easily movable, and was distinctly fluctuating to the touch. At the desire of the patient, and under the influence of chloroform, the operation of ovariectomy was performed. A finger's breadth above the symphysis pubis, an incision of $2\frac{1}{4}$ inches was made through the integuments of the abdomen, nearly in the line of the linea alba. The cyst, being seized with hooks, was first punctured by a trocar, which evacuated nearly 9 quarts of clear limpid fluid, and thereafter it was pulled out until the pedicle of the tumor was completely exposed. The abdominal incision was closed with six sutures; strong double ligatures were then passed through and tied round the neck of the tumor; and next, a ligature was passed both through the pedicle and the lips of the wound. Finally, the tumor was removed by cutting through its stalk, immediately above the ligatures. The tumor presented one very large cyst; on the extirpated ovary there were two smaller cysts, the size of hazel-nuts, and the Fallopian tube was adherent by its fimbriated extremity. The evacuated fluid contained merely a few epithelial cells, and it coagulated readily with heat. The wound cicatrized in nine weeks, and during the healing process the patient was considerably troubled with colic pains.

3. *Mr. Teale's case*.—Mary Clapham, æt. 21, unmarried, was admitted into the Leeds Infirmary, March 15, 1854, on account of a large fluctuating tumor in the abdomen.

Her complexion was pale, and somewhat sallow. She was much emaciated; her disposition cheerful.

She began to menstruate at the age of 17, but has not been unwell since August, 1852. In that month she suffered from a disordered stomach, and from pain in the abdomen. Her body soon afterwards began to swell, not obviously on one side, but from below upwards. She gradually lost flesh, and ill health compelled her to leave off her employment.

In July, 1853, her medical attendant, Mr. Gardiner, of Guiseley, removed fifty-two pints of fluid by tapping. The abdomen soon became distended again, and the operation was repeated in October, 1853, and in January and February, 1854; the intervals between the operations being sixteen weeks, twelve weeks, and seven weeks.

On her admission, Mr. Teale diagnosed encysted dropsy of the abdomen. The tumor extended as high as the cartilages of the ribs and the ensiform cartilage. In front of the tumor, a few inches above the navel, the transverse colon could be distinctly seen, and its varying size observed as air and other matters were traversing it. On March 28, five weeks after the last operation of tapping, Mr. Teale drew off, by means of the trocar, thirty-six pints of fluid. On the following day the abdomen was flaccid, but, at its lower part, a tense, rounded tumor could be felt, reaching nearly as high as the navel. It was therefore apparent that the tumor was multilocular, consisting of one principal and other smaller cyst or cysts. By the use of the uterine sound, the womb was found to move independently of the tumor.

Influenced by the result of these investigations, by the apparent absence of other organic disease, the youth of the patient, the rapidly increasing necessity for tapping, the steadily advancing emaciation, and the urgent desire of the patient and her friends for the removal of the disease by operation, after the great hazard as to the result had been explained to them, Mr. Teale, in consultation with his colleagues, Mr. Smith, and Mr. Samuel Hey, decided upon operating.

April 3, at 2 P.M., the patient was brought into the operating-room, the temperature of which had been raised to 80°. An incision was made, about four inches in length, between the navel and pubes, dividing the integument and linea alba. The finger of the operator was now passed within the muscular wall of the abdomen, so as to detach the tumor, which adhered to the wall in the site of the former operations of tapping. The parts being so much attenuated by distension, Mr. Teale was uncertain whether he was merely detaching by the finger the natural filamentous connections of the fascia transversalis, or separating the two layers of adherent peritoneum; and he therefore proceeded to divide a few fibres of the membrane covering the tumor, which was as thin as paper, and translucent, allowing the fluid contents of the cyst to be seen through it. He had scarcely touched this thin membrane with the scalpel before the cyst was opened, and a copious rush of fluid followed. After about twenty pints had escaped, he proceeded to detach the cyst from the anterior wall of the abdomen, and the hand soon passed freely into the general cavity of the abdomen. Two or three minor cysts were now opened, and their contents discharged. The pedicle was soon reached, and it was found that the tumor was attached to the right ovary and broad ligament by a neck, about twice the thickness of the thumb. The wound in the abdominal wall was next a little extended; a duplicate ligature was passed through the pedicle, and tied on each side of it, and the cyst removed. The wound in the abdomen at its upper part was united by common interrupted suture, and at its lower part by two twisted sutures, the ligatures of the pedicle being brought to the surface along with the stump of the pedicle, and attached to the two pins of the twisted sutures.

The patient, after having been removed to a small ward, of the temperature of 70°, was cheerful, and had a good pulse of 85. She complained of slight faintness, and of pain in the right leg. She was ordered to take twenty minims of tincture of opium immediately, and to repeat ten minims every four hours. Iced water to be taken in small quantities frequently.

5 P.M.—Pulse 84. She has vomited three times a little water and mucus. Complaints of thirst, and of pain in the right leg and thigh.

10 P.M.—Pulse 90; vomiting less frequent. She has slept occasionally for a few minutes; pain in the leg relieved; skin moist and warm. She has passed urine freely and without pain.

April 4, 8 A.M.—Pulse rapid, thready, and scarcely perceptible; skin cool and clammy; countenance pallid. During the night she became very restless and exhausted, and was much distressed with vomiting. Spirit of ammonia was given frequently, and the opium discontinued. A little brandy was given, but it seemed to aggravate the vomiting.

Noon.—She gradually sank during the morning, and died at noon.

Examination ten hours after death.—The whole frame much emaciated; surface bloodless; abdomen flaccid, and free from tympanitis. The incision, commencing two inches below the navel, and extending downwards four inches, was united throughout by adhesion. The omentum was found intimately adherent to the abdominal wall, and firmly incorporated with the parietal peritoneum and fascia transversalis, so as apparently to constitute with these structures one membrane,

which did not admit of being separated into its constituent parts. In like manner, the transverse colon was firmly adherent to the front wall of the abdomen. In the abdominal cavity were found several pints of fluid, deeply colored with blood, and some dark clots of large size. The source of the hemorrhage appeared to have been some vessels of the omentum, which had been divided along with the abdominal wall during the operation, but which did not give any evidence of bleeding at the time. The right ovary and Fallopian tube had been removed, the broad ligament remaining. The ligatures were firmly attached to the pedicle, which had evidently not been the source of the hemorrhage. The pedicle had been tied within half an inch of the womb. The peritoneum was tinged red by contact with the effused blood, but did not exhibit any evidence of inflammatory exudation.

The stomach was large, and united by old adhesions to the diaphragm. The under surface of the liver was covered by a layer of old and organized false membrane, and had become fixed much higher than its natural position, having been pushed upwards by the tumor. Spleen healthy, but adherent to the diaphragm; lungs healthy; heart pale and flabby.

(C) CONCERNING THE DISEASES OF CHILDREN.

ART. 143.—*A Case of Hydrocephalus in which Paracentesis was performed.*
By DR. BLACKMAN.

(*New York Journal of Medicine*, May, 1854.)

Dr. Blackman accompanies this case with some general remarks upon hydrocephalus, with an elaborate inquiry into the statistics of cranial paracentesis, in which he avails himself very largely of the previous labors of Dr. Charles West (which labors were published in the *Medical Times and Gazette* for April, 1842), and with a copious citation of the opinions of others. The general weight of opinion is certainly against the operation, and the present case only adds to that weight. Dr. Blackman writes:—

CASE.—About the first day of May, 1850, a child of Mr. P., of Newburgh, was placed under our care, for the treatment of chronic hydrocephalus. This child was six months of age; its body and extremities were well formed; the circumference of the head was about thirty inches, and, when held between the eye and the light, it was perfectly transparent. The integuments were highly vascular at various points; and at its anterior and posterior portions there were bag-like protuberances, appearing as if about to burst from the pressure of the enormous quantity of fluid within. The health of the child was good, nutrition well performed, and, with the exception of the threatened rupture of the cranial coverings, there were no indications of immediate danger to life. The head began to enlarge very soon after birth, and continued to increase until, when about four months old, during the night, the cranial cavity became suddenly nearly empty, whilst the integuments covering the entire body were distended as in anasarca. In the course of a few days the latter completely disappeared, and the head regained its accustomed extraordinary size. In this condition we first saw it, and, as it would have been but folly to have held out an idea of cure, we proposed, by puncture, gradually to diminish the distension of the scalp, and to save the parents from the shock of witnessing the sudden death of their child by the spontaneous opening which seemed not far distant. With a narrow bistoury an opening was made through the thin and distended coverings of the cranium, and about six or eight ounces of fluid were allowed to escape before the puncture was closed with collodion. The first tapping was done on the 6th of May, and, as no unpleasant immediate effects followed, another opening was made some two or three days afterwards, and, in the course of ten days, about two quarts had been evacuated. On the 18th of May, after a few hours of suffering, with symptoms of restlessness, vomiting, &c., the child died. After death, the scalp was freely laid open, and the fluid emptied from the cranial cavity, filling an ordinary sized wash-bowl. There were no traces of cerebral substance to be found, but at the base of the brain the pons varolii and medulla oblongata existed of their natural shape and size.

ART. 144.—*On the application of Coniin in scrofulous intolerance of light.*

By Dr. MAUTHNER.

(Journ. für Kinderkr., Hf. 1, 2, 1854.)

Dr. Mauthner has found great benefit in cases of this kind, where no inflammatory symptoms are present, from the application twice or thrice daily of this emulsion:—

R Coniinæ gr. ss;
Ol. Amygdalæ dulc. ʒj.

The application is made by means of a common camel-hair pencil. Dr. Mauthner says, that the most obstinate cases may be cured in this way in a period varying from 8 to 14 days.

ART. 145.—*On the use of Cubebs in Infantile Enuresis.* By Dr. DEITERS.*(Preuss. Verein. Zeit., 16, 1853; and Edinburgh Monthly Journal, Oct., 1854.)*

This author has found cubebs more effectual than any other remedy in curing the incontinence of urine, so common among children. This complaint may depend upon atony of the bladder, or on the presence of intestinal worms. In the former case the cubebs acts as a tonic, in the latter as a valuable anthelmintic. The medicine requires to be given in considerable doses; two pinches (*i. e.* a few grains or *Zwei Messerspitzvoll*) for infants, and half a teaspoonful twice or thrice daily for children of a somewhat more advanced age. Its effect is speedy and permanent: and although occasionally it happens that during its administration the incontinence returns at periodical or irregular intervals, these recurrences gradually become less frequent, and eventually disappear altogether. To effect a radical cure, the author has often found it necessary to continue its use for a period of from three to eight weeks, and he has never observed any injurious effects from its administration.

Deiters observes that he has found the same remedy most efficacious in checking nocturnal emissions in cases of spermatorrhœa.

REPORTS
ON THE
PROGRESS OF THE MEDICAL SCIENCES.

July—December, 1854.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge,—the alleviation of suffering and disease.

I.

REPORT ON PRACTICAL MEDICINE, ETC.

1. *The prevalence of Ague during the month of April.* By Dr. BARCLAY. (*Medical Times and Gazette*, July 1, 1854.)
2. *Meteorological Returns during the Cholera Epidemic.*
3. *Notes of a few Cases of Cholera treated during the summer of 1849, showing the curative powers of Quinia in large doses.* By F. W. SARGENT, M.D. (*Philadelphia Medical Examiner*, September, 1854.)
4. *Annual Medical Report of Her Majesty's 80th Regiment, while in Rangoon, 1853.* By Mr. TAYLER. (*Indian Annals of Medical Science*, April, 1854.)
5. *Letter from Dr. Ayre, of Hull, to the President of the College of Physicians, on the treatment of Cholera by Calomel.* (*The Lancet*, May 20, 27, and June 3, 1854.)
6. *On the treatment of Cholera by Castor-Oil.* By Dr. JOHNSON, Assistant-Physician to King's College. (*Medical Times and Gazette*, September 9, 1854.)
7. *Report of the Board of Health on the treatment of Cholera by Castor-Oil.* (*Medical Times and Gazette*, September 23, 1854.)
8. *Notice of the trial of the treatment of Cholera in University College Hospital.* (*Medical Times and Gazette*, September 23, 1854.)
9. *Notice of the trial of Castor-Oil in Cholera, on board the Dreadnought.* (*Medical Times and Gazette*, October, 7, 1854.)
10. *Remarks on the mode of treatment of Cholera with frequent doses of Castor-Oil.* By J. A. EASTON, M.D. (*Glasgow Medical Journal*, October, 1854.)
11. *Suggestion for the treatment of Cholera in the state of collapse by artificial production of peritoneal or cellular dropsy.* By B. W. RICHARDSON, M.D. (*Association Medical Journal*, August 12, 1854.)
12. *On the injection of the Cellular Tissue with water, as tried in 1848, in the treatment of Cholera.* By A. BUCHANAN, M.D. (*Glasgow Medical Journal*, October, 1854.)

In consequence of the recent epidemic, much attention has been given to the subject of cholera since our last report, but, as yet, little of what is really valuable has been brought to light. There is much reiteration of what is old, and, as it seems, a good deal of empiricism or utopianism in what is really new; but there is no deficiency of material for miscellaneous reflection, as the headings to this article will show.

1. The points to which we would first wish to direct attention appear to have no connection with each other, or with the cause or nature of cholera; but if they have not (they seem to have) they will serve to introduce the subject. These points are the prevalence of ague and aguish symptoms, and the extreme dryness of the weather before and during the cholera epidemic. Dr. Barclay, writing from St. George's Hospital (*Medical Times and Gazette*, July 1, p. 20), bears witness as to the prevalence of ague during the month of April; we can bear similar testimony in connection with the Westminster Hospital; and we know of others who can do the same in connection with other places. On the other hand, Dr. Wilks, writing from Guy's Hospital (*Medical Times and Gazette*, July 15, p. 67), is disposed to doubt the existence of such prevalence. The dryness of the weather before and during the epidemic is an indisputable fact, even without the evidence of meteorological tables to attest it. Each person, indeed,

must have remarked the fact, and each person in all probability must have been struck by the apparent anomaly, that so dire a pestilence should stalk abroad under skies of such unusual brightness and serenity. It appears also that a similar state of weather has prevailed in former epidemics. Now these two facts—the prevalence of ague and the unusual dryness of the weather—appear to bear very intimately upon the nature and causes of cholera when interpreted by other and more obvious facts. In India, for example, cholera makes its appearance in company with agues, remittents, and dysenteries in the dry season, and disappears in the same order when the rains return. And this is intelligible so far as the agues, remittents and dysenteries are concerned; for all these affections are undoubtedly related to a miasm which is generated in the drying mud. It is intelligible also, so far as cholera is concerned, for not only does this disease show its connection with this miasm by appearing and disappearing with diseases which are certainly produced by this miasm, but it bears witness to the same fact by interblending in a thousand different ways with these very affections. This is no new opinion. On the contrary, the intimate connection in nature and cause between cholera and agues, tropical fevers, and dysenteries, is now very generally recognized by the persons best acquainted with tropical diseases. And if so, then the prevalence of ague and the remarkable dryness of the season are very significant facts in connection with the history of cholera in the English metropolis—the great dryness of the season, as allowing the mud in the drains and on the surface to pass into that perilous dryness which allows the production of the miasm, which according to the degree of intensity will produce agues, remittents, dysenteries, cholera; and the prevalence of ague, as showing by an unmistakable test, that this miasm is of the nature which it is supposed to be.

By thus relating cholera to the class of diseases of which ague is a member, we obtain the only clear insight into the means which should be adopted with a view to its prevention and cure. If unusual dryness of the season (*i. e.* tendency to tropical draught) be a cause, it is obvious that we should endeavor to reproduce, as far as possible, the state of things which obtains in rainy weather. Thus: in low districts like Westminster, Lambeth, and Southwark, where the water supply is scanty at best, and altogether wanting in some parts, it becomes a question whether the tide ought to be excluded altogether from the drains in seasons of drought, and whether the best means of preventing and suspending a visitation of cholera, would not be to open, occasionally and partially, the *pen-stocks* and *tide-flaps* at the mouths of the great drains. A plan of this kind was adopted, if we remember right, some years ago, under similar circumstances, in a town bordering upon the Ouse, in the East Riding of Yorkshire, and with immediate and permanent benefit. In other cases, the requisite supply of water must be obtained from other sources. In every case, the object must be to take care that as much water enters the drains, or lodges upon the surface, as enters or lodges in comparatively wet weather. Again, if cholera depends upon the miasm which produces ague and tropical fever, it is obvious that quinia or arsenic will be effectual prophylactics—quinia especially. There is no doubt that either remedy is prophylactic of ague; and there is every reason to believe that quinia is prophylactic of tropical fever. At any rate so strong is the evidence as to this latter point that it is now ordered by the naval authorities that quinia shall be served out habitually to officers and men when engaged on the west coast of Africa, or on other malarious localities. (See a paper by Dr. Bryan, R.N., in *Abstract*, vol. xix., p. 1.) Either of these facts is sufficient to lead us to expect that quinia and medicines of the same class will be prophylactic of cholera, if cholera is so intimately allied to ague and tropical fever as it appears to be; but both facts together may be said to constitute a proof, which is well-nigh conclusive, that they would be so prophylactic.

More than this, these considerations afford no inconsiderable light as to the principles which should guide us in the treatment of cholera, for they bring the experience of tropical fever to bear directly upon the subject. Now there is no doubt that quinia will cure tropical fever, if given largely and at once. There is no doubt also that tropical fever subsides under the influence of calomel, the moment this mineral begins to act on the gums, but not till then. All this is

clearly set forth in the admirable paper by Mr. Hare, on tropical fever and dysentery, the notice of which is to be found in the present report. And if so, and if cholera be a kindred disease, why should not quinia or calomel be equally effectual? And this leads us to notice, in the second place, the results which have recently followed the employment of those remedies in cholera.

2. Quinia has not been extensively tried. In the annual report of Her Majesty's 80th regiment (*Indian Annals*, p. 423). Mr. Tayler writes:—

“At Rangoon the treatment of the disease was by large and repeated doses of quinia, but not with any very encouraging success. The fact is, that whilst vomiting is urgent, the quinia is only wasted; small doses of quinia and opium in the form of pill, washed down with soda water or an effervescing draught, certainly appeared a more advantageous method of treatment. Free counter-irritation to the abdomen principally by means of a large mustard poultice, was invariably practised, and in the premonitory and developed stage of the disease, I know of no other more essential means of benefit. Chloroform in doses of 20 to 40 minims, has appeared to relieve the spasms, but was as impotent as all other medicines in staying the progress of the disease when in an advanced stage.”

Dr. Sargent furnishes the notes of a few cases of cholera treated in the summer of 1849, to show the efficacy of sulphate of quinia in large doses (*Philadelphia Examiner*, Sept., p. 539). He appears to have treated 37 cases of cholera in the stage of collapse, and with the following result. Seven were treated by calomel in combination with sugar of lead, opium, &c., and only 1 recovered; 4 were treated by small doses of calomel, and none recovered; 4 by chloroform, with camphor or oil of turpentine, and none recovered; 3 by small doses of quinia and sulphate of iron, and none recovered; 2 by bleeding, and both recovered; and 17 by large doses of quinia, and 13 recovered. The following cases in which the treatment was successful are related in illustration. Dr. Sargent writes:—

CASE 10.—An Irishman, æt. 46, a laborer by occupation, intemperate, was admitted at 9½ A.M., July 13th. During the preceding night he had had slight pain in his bowels, and four large watery evacuations; having been previously, as he assured us, perfectly well; went to work as usual at 6 o'clock this morning, but was soon seized with violent cramps, frequent purging and vomiting, and was sent to the hospital.

Present condition, 9½, A.M.—Face pinched, eyes sunken, lips blue, temperature of tongue lower than natural; neck, chest, and extremities cold; fingers shrivelled as if they had been macerating in warm water, nails purple; pulse just perceptible at the wrist; heart beating feebly and irregularly; respiration not much disturbed; violent cramp in left leg below the knee; very urgent for cold water.

10 o'clock.—He was put to bed, frictions of mustard and cayenne-pepper were made to his limbs, and bags of hot oats were placed about his body; he was allowed ice freely; ℥j of beef broth was administered every half hour, and grs. xvij of quinia, with gtts. xxx of laudanum, and gtts. xx of elixir of vitriol were given in a wineglassful of water.

11 o'clock.—Has had no cramp during the last half hour, and no evacuation from the stomach or bowels, since he took the quinia; skin warm, pulse becoming fuller and stronger, action of the heart perfectly regular; not at all restless; thirst very much abated; no headache, or noise in the ears, or disturbance of vision. Ordered grs. v. quinia in acidulated water, without laudanum.

1 o'clock P.M.—Has just passed ℥ij dark colored, turbid urine, coagulable by heat; condition very favorable.

3 o'clock P.M.—Has been sleeping quietly, rather more than an hour; skin moist and warm; pulse 90. When he awoke he asked for something to eat, and took ℥viiij of beef broth; still thirsty, and is allowed to take cold water pretty freely.

7 o'clock P.M.—Has slept the greater part of the afternoon; on awaking just now, passed nearly half a pint of urine, lighter in color than the last, and very slightly coagulable by heat.

July 14th, 8 A.M.—Had a very comfortable night, feels perfectly well, “bar-rin’ the wakeness;” had a large, dark-colored, semi-solid evacuation from the

bowels, accompanied with much wind, but no pain; his whole condition and aspect very much changed for the better; has a good appetite, which he is permitted to indulge on tea and bread and butter for breakfast and supper, and soup with rice for dinner.

Directed to take gr. j each of quinia and sulphate of iron, four times daily.

Was discharged well on the 16th of July, having had no relapse or other unpleasant symptom.

The following patient was seen by Dr. Carson and several other gentlemen, who happened to be in the ward at the time of his admission.

CASE 11.—The cook and steward of a West Indian vessel, was admitted at 1½ P.M., July 17th. His habits are good, and his health always robust. He left Baltimore in the cars at 9 A.M., in excellent health, having had a natural stool at his usual time in the morning; towards the close of the ride from Baltimore to Havre-de-Grace, he became languid, drowsy, and chilly; on getting into the boat at the latter place, he drank two large glasses of iced water in succession, and very soon experienced a sensation of pain and great oppression at the pit of the stomach; cramps and vomiting soon commenced, accompanied later by purging; he was placed in a carriage immediately on his arrival at the depot in this city, and was brought to the hospital; he had a copious evacuation of a watery fluid from his stomach and bowels, during the ride of half a mile.

Present condition, 2½ o'clock, P.M.—Surface generally cool, tongue clean, moist and cold, but not extremely so; skin wet with perspiration; pulse very feeble; fingers puckered like those of a washer-woman; voice feeble and husky; extreme thirst; restless to a great degree; respiration sighing; complains of feeling extremely hot, and oppressed in breathing.

Ordered, grs. x quinia, and gtts. x laudanum, in ℥ss brandy; hot oats, in bags, were applied about his body and against his feet.

In the course of half an hour, his skin had become pleasantly warm, his restlessness and thirst had abated, his respiration had become regular without sighing, and his pulse was of a very encouraging force and volume; no vomiting, purging, nor cramp, after the first fifteen minutes from his admission; (just after his entrance he ejected an abundance of the "rice-water" matter from his stomach and bowels, but there was no repetition of the discharges after he took the quinia.)

3½ P.M.—The quinia, brandy, and laudanum has just been repeated in the same proportions, there seeming to be a disposition to flag again; reaction followed as at first, and continued until about 5½ P.M., when it was thought advisable to administer a third dose, inasmuch as the patient seemed a little restless, and his pulse not quite so strong as before. After this his condition improved, and he went on steadily gaining. In the early part of the evening, he passed ℥iv of dark reddish-brown urine. During the following days, he took sulphate of quinia and sulphate of iron, gr. j of each, four times daily, until the 21st of July, when he was discharged cured.

CASE 12.—James Owens, æt. 49, pretty well known as superintendent of the "State House," was admitted July 26th, at 9½ A.M. He had diarrhœa for a week; but on the night of the 25th, was seized with cramp, in the abdomen, hands, and feet, accompanied with vomiting and increased purgation.

Present condition.—Countenance sunken; eyes hollow; nose pinched and blue; tongue cool; skin of the hands shrivelled, moist, and cold; nails blue; pulse very small, and very weak and irregular, action of heart feeble, and somewhat irregular, sounds distinct; muscles flabby and doughy; extremities cold, neck and face cold, trunk warm. While he was being undressed, he vomited about ℥iv of a thin, bluish fluid, containing numerous flocculi of whitish matter in small fragments.

He was put to bed, hot oats in bags placed about him, and grs. xvij of sulphate of quinia, with gtts. x of laudanum in ℥ss of brandy were administered; a piece of flannel wet with spirits of turpentine was laid upon the epigastrium: ice was freely allowed.

In the course of twenty minutes his pulse had become much fuller and perfectly regular; his lips grew slightly ruddy. At the end of an hour, the quinia, laudanum, and brandy were repeated, reaction seeming to be at a standstill. An hour and a half subsequently (about 12 o'clock), a perfect reaction

was produced, and he continued to recover. After the first dose of quinia, he had no return of vomiting or purging, and but one attack of cramp in one of his legs. At 7½ o'clock he passed ℥viii of darkish muddy-looking urine; at 9 o'clock he fell into a sound healthful sleep.

During the two or three days following, he took gr. j each of sulph. quinia and sulph. iron, four times daily.

There are no new facts to record respecting the treatment of cholera by calomel. Dr. Ayre writes to *The Lancet* to urge the advantages of repeated small doses of calomel, and to complain that this plan has been unfairly dealt with in the recent "Report of the College of Physicians on Cholera," and apparently with reason. Dr. Ayre does not furnish us with any new particulars—indeed he writes before the outburst of the present epidemic, but he refers to what happened in 1832, and says enough to show that this treatment was very successful.

"I procured," he says, "a copy of the register kept in this town in 1832 by the cholera inspector, and which contains, in a tabular form, the name, age, residence, and date of attack, of every patient, with the name of the medical attendant respectively, and the result of his treatment. From this table, now before me, I have extracted the entire number of patients attended by nine of the medical men of this town, with the results of their treatment. Three of these employed calomel in small doses, whilst the others followed various modes of treatment. I here give the following extracts from the register or the cholera inspector of 1832 at Hull;—

Cases treated by six medical attendants, 234; recovered, 96.

" three, with calomel, 345; recovered, 267.

"The patients whom I attended amounted to 218, of whom 43 died, though some of those had already expired when I took down their names to attend them, and several of the others were negligently nursed, or were subjected to other unfavorable influence. Not more than six of the whole number who recovered had either consecutive fever or soreness of the gums. Three or four days was the general term of the duration of the disease; and as children recovered more readily than adults, no age precluded recovery if exempt from other diseases. One of my patients was 92, and survived a most severe attack with almost uninterrupted health to the age of 103."

We will not venture an opinion of this treatment, except to say, that arguing from the history of tropical fever, we should fully expect an improvement in the symptoms of cholera as soon as the symptoms of ptialism made their appearance. From this history, indeed, it would appear as if the medicine was altogether inoperative up to this point, but it *may* be different in cholera. Be it as it may, however, we confess our own predilections for quinia, and, if nothing occurs to shake these predilections, we shall proceed to treat cholera the next time we have charge of cholera-wards, as if cholera were tropical fever i. e. by full doses of quinia.

Nor is this conclusion at all shaken by the promises or results of the two new modes of treatment which have yet to be noticed—the treatment by castor-oil, and that by injections into the peritoneum and cellular system generally.

3. The treatment by castor-oil is that which has made most sensation during this past epidemic. It was taken up by the *Times*, and hence the reason, but apart from the publicity thus gained, it has little to recommend it to notice. We leave, however, the facts to speak for themselves. Dr. Johnson writes:—

"All the cases of cholera which have come under my care in the hospital have been treated by castor-oil, administered in a mode which I shall presently explain. We have called no case 'cholera' which has not presented well-marked symptoms of collapse. Fifteen of these cases, most of them in the very extremity of collapse,* have been under treatment, and the result has been 12 recoveries and 3 deaths. One of the fatal cases was a child, six years of age, who died half an hour after admission, in consequence, as I believe, of a large dose of brandy which had been previously administered by his mother. In a

* Four of these cases are still in the hospital, but quite convalescent.

second fatal case, the oil had been given for some hours, and the patient was rallying, when the oil was discontinued in consequence of the intestinal discharges appearing to be tinged with blood. I was absent when this case occurred, and although I impute no blame, yet I think that with the discontinuance of the oil the patient's chance of recovery was taken away. In the third fatal case, a night nurse disregarded her instructions, and we have good reason for the belief that during several hours the patient had very little, if any, of the medicine. Admitting, however, that the fatal result in these three cases was inevitable, the proportion of recoveries yet remains four-fifths of the whole. The number of cases is small, but my hopes from this plan of treatment do not rest merely upon my own individual experience. I have carefully studied the results of the various modes of treating cholera which have been advocated and practised by different members of our profession, and I have arrived at the conclusion, that those methods of treatment which have been attended with the largest amount of success have been essentially eliminative in their tendency. I allude especially to the saline treatment of Dr. Stevens, the treatment by small and repeated doses of calomel as practised by Dr. Ayre, and the emetic plan of treatment. While, on the other hand, the largest amount of mortality has occurred in the practice of those who have given freely either opium or alcoholic stimulants,—a practice long since characterized by Dr. Stevens as that of adding one poison to another. For what reasonable explanation can we suggest for the phenomena of cholera except this,—that some mysterious poison enters the blood, which, while it exerts a powerful depressing and narcotic influence on the entire nervous system, in most cases excites a copious secretion into the stomach and intestines, whereby the poison is separated from the blood, and thus ejected from the body? And if this be the rational pathology of cholera, what treatment is so likely to be injurious as that which attempts, by narcotics and astringents, to arrest the discharges? What procedure so full of promise as that which has for its object to favor and assist the elimination of the poison?

“I have not time to detail the numerous facts and arguments which favor that view of the pathology and the treatment of cholera which I advocate. I may, however, remark in passing, that there is no relation between the degree of collapse and the amount of fluid which is lost by purging; that in many cases there is rather an inverse ratio between the collapse and the diarrhœa, and that the former often decreases and disappears while the latter continues with unabated rapidity.

“Assuming, therefore, that it is desirable to encourage rather than to suppress the diarrhœa, the agent best adapted to accomplish this result appears to be castor-oil—the mildest, least irritating, and yet withal the quickest purgative which we possess. Our plan has been to give the oil in doses of half an ounce every half hour, and to continue these doses until the bowels are very freely acted on, when we give it at longer intervals, and discontinue it altogether as soon as reaction is fairly established. It is usually given in cold water. A patient with a cold tongue has not a very delicate sense of taste, and we have had no difficulty in administering the medicine. It sometimes excites vomiting, and we have had such decided evidence that the effort of vomiting is beneficial, that we are rather gratified than otherwise with this result. In every case we give cold water *ad libitum*. We put mustard poultices over the stomach, to relieve the pain which is usually complained of in that situation; we apply dry heat to the cold extremities, and friction to the cramped muscles; we most carefully avoid opium and brandy until the period of collapse is safely passed; and we have not as yet had one case of secondary fever. It may be well to observe that the success of the plan depends upon a steady, persevering, watchful attention to every case, at every period of its progress. Let no one imagine that he has done all that is required, when he has ordered a nurse to give half an ounce of castor-oil at certain intervals. He must be quite sure that his directions are fully carried out.

“I must not omit to mention that one or two of our patients have been rescued from an almost fatal lethargy by an emetic of mustard and salt; and that in one case the addition of two drachms of oil of turpentine to one dose of cas-

tor-oil appeared to act as a wholesome stimulant during the stage of icy coldness. As to the quantity of castor-oil which may be given with impunity, I may state that more than one patient has had as much as a pint in the course of forty-eight hours, and that in several cases in which, with extreme collapse, there has been a torpid condition of the bowels, we have given the oil in doses of a full ounce.

"And now a few words as to the treatment of epidemic diarrhoea, characterized by vomiting, purging, and cramp. There appears little reason to doubt that the unaided efforts of nature will suffice for the cure of by far the greatest number of these cases, and that it is a matter of comparative indifference whether the patient is dosed with sulphuric acid or with carbonate of soda, except that the sulphuric acid in large doses must irritate the mucous membrane, and thus act as an aperient. I am persuaded, however, that the plan of attempting to check these excretory efforts by opium and astringents is as hazardous as it is unreasonable; and I trust that the time is not far distant when the profession will be unanimous as to this important point of practice. We have recently, at the hospital, cured hundreds of these cases by one or two doses of castor oil. Several of our nurses, and one pupil in attendance on the cholera patients, have been seized with severe premonitory symptoms of cholera. They have all been quickly cured by castor oil, and not one has passed into the stage of collapse. On the other hand I have known, in the year 1849, an attack of vomiting and purging quickly converted into one of fatal collapse by one or two small doses of opium; and some of the worst cases of cholera that we have recently had under our care have been those in which, previous to their admission, medicines had been given for the purpose of checking the diarrhoea."

Dr. Johnson's statements being of this character, and attention having been called to them in so public an organ as the *Times*, they were put to the test in several quarters, and the answers supplied, require no comment on our part.

The Medical Council, of the General Board of Health, appointed a Committee, consisting of Dr. Paris, Dr. Babington, Dr. Tweedie, Dr. Baly, and Mr. Ward, to inquire into the matter, and the following is the Report, which was received and approved by the Council:—

"The Committee, having read Dr. George Johnson's letter to the President of the Board of Health, together with its enclosures, found, on an examination of Dr. Johnson's cases, that 11 of them were cases of cholera in a state of collapse, of which 6 were fatal.

"Five other cases of cholera did not pass into a state of complete collapse; these terminated in recovery.

"Three cases of choleraic diarrhoea also recovered."

Of the whole number of cases treated with castor oil, the following table shows the result:—

Abstract of the Cases.	Cases.	Fatal.	Recovered.	Still under Treatment.	Remarks.
Mr. —, of — Hospital, . . .	2	2			
Mr. —, of — Hospital, . . .	3	3			
Mr. —, of — Hospital, . . .	6	6			
Mr. —, of — Hospital, . . .	1	1			
Mr. —, of — Hospital, . . .	4	4			
Mr. —, of — Hospital, . . .	5	5			
Dr. —, of —,	2	2			
Dr. —, of —,	7	6	1	—	Amendment before taking the oil.
Dr. —, of —,	6	4	2	—	Both mild.
Dr. —, of —,	8	6	—	2	One in hopeless state, one in consecutive fever.
Mr. —, of —,	7	5	1	1	One in consecutive fever.
Dr. —, of —,	16	10	4	2	One had relapse, one still under treatment.
Mr. —, of —,	7	6	1	—	In an incipient state before the oil was taken.
Mr. —, of —,	15	8	6	1	
Total,	89	68	15	6	

"Cases treated at — Hospital with castor oil and tincture of capsicum,
 11 9 1 1

"From the above abstract, the details of which have been carefully investigated by the committee, it appears, that, in 89 cases of cholera, treated by fourteen different practitioners with castor oil, on the plan recommended by Dr. Johnson, 68 were fatal, recovery having occurred only in the 15 cases, while the 6 remaining cases are still under treatment.

"The above report having been laid before the council, and approved by them, it was resolved that the same be communicated to the President of the General Board of Health.

(Signed),

"JOHN AYRTON PARIS, Chairman.
 B. G. BABINGTON,
 A. TWEEDIE,
 WILLIAM BALT,
 W. B. WARD.

"WHITEHALL, Sept. 20."

In University College Hospital the treatment by castor oil was carried into effect by Dr. Parkes and Dr. Hare, and Mr. Hillier, the resident medical officer, communicates the results of the trial in the following statement:—

"Six cases have been admitted into the Hospital since attention was called to the treatment by castor oil, and of these five have been at once put upon that treatment, as prescribed by Dr. Johnson, with the addition of the subsidiary measures recommended by him, such as heat to the extremities, etc. The first three cases died, although the utmost care was taken that the remedy should be administered with regularity; they got gradually worse from the time of their admission. Two other cases, admitted yesterday, are still under treatment, and it is very doubtful whether either of them will recover. One case, treated with castor oil, has recovered, but in this one the patient had rallied, and there was very decided improvement, while the patient was under a different line of treatment, before the castor oil was commenced. In a seventh case, admitted on the 1st inst., castor oil was given, in ounce doses, every hour; but this also proved fatal. These cases have not been selected on account of their severity, but have been taken in succession as they have been admitted; three of the cases, indeed, presented a very favorable aspect on admission."

The same treatment was also put in practice on board the Dreadnought Hospital Ship, and with no more satisfactory results, if we are to judge from the report by Mr. Compton, the resident medical officer. The cases were not selected, and they were taken for several days together. Mr. Camplin writes:—

"Immediately on admission, each patient had a salt-and-water emetic administered, in order to clear the stomach of any medicines or other liquid they might previously have taken. After copious vomiting had taken place, the castor oil was begun. The medicine was given regularly, under my own superintendence, and I can conscientiously assert, that in no case was there any neglect or mismanagement on the part of the nurses. Constant friction to the extremities, by means of flesh-brushes or coarse towels, was also employed, and an abundant supply of iced water was given to all of them."

Then follows a table, from which it appears that out of the 19 cases, 12 terminated fatally, and 7 recovered.

Of the 12 fatal cases, 8 died during the stage of collapse, and 4 during the consecutive fever. One case was at the commencement, but slightly collapsed, but afterwards became an extremely bad case of consecutive fever.

Of the 7 that recovered, in 1 the reaction was so great as to require a full bleeding; 3 had the consecutive fever slightly; and 3 recovered without any febrile symptoms at all.

In 4 cases calomel was given after the oil appeared to have produced no beneficial effect, and the patients were getting worse.

Of the 4 thus treated, 2 recovered, and 4 died; the two that recovered had consecutive fever slightly; the 3d died of consecutive fever; and the 4th died during the stage of collapse.

Judging from the result, Mr. Compton thinks we are not justified in giving any credit to castor oil in Asiatic cholera.

Dr. Easton, one of the physicians to the Cholera Hospital in Glasgow, writes to the same effect. He tried the castor oil in 9 cases, and abandoned the practice in consequence of 7 out of this number having died. He writes:—

“To have continued the treatment after such results, would have been neither more nor less, in my opinion, than to have incurred the guilt, and to have become amenable to the penalties, of culpable homicide. Indeed, it may appear to some that such a charge has already been substantiated, and such penalties already incurred; but, in answer to those who think so, I remark that, in consequence of the great mortality of cholera, no matter what the treatment pursued, we were perfectly justified in having recourse to a new mode, in whose praise the note of preparation had been sounded so loudly, and the superiority of which appeared to have been as signal as it was gratifying. The nine cases already referred to included persons of both sexes, of all ages, and in various stages of the disease. The medicine was faithfully administered every half hour, in doses of half an ounce, under the eye of my intelligent assistant, Mr. Marshall, who resides in the hospital, and who, like myself, was most anxious that the treatment should have a fair trial, and that the result should be successful. In four of the cases collapse had been established before admission into hospital; in the other five it had not been developed. One of the two recoveries took place in one of the four cases of collapse—the other three of these died; and, of the five cases in which there was no collapse on admission, one recovered, and the remaining four passed into collapse, from which they never rallied. No opium, so far as we could learn, had been given in any case previous to admission, and certainly none was given after it; but in one of the cases which recovered, and in one of those that died, about two gills of brandy had been swallowed in the patients' own houses. One of the patients died of the consecutive fever, after having taken 54 oz. of oil; and I may here remark, that the average quantity of oil given to each patient was about 22 ounces. In all the cases the medicine increased the sickness, and in most of them a large portion of it passed through the bowels unchanged. In none of the cases that died did it alter the character of the dejections, though in the two patients who recovered, the bilious diarrhœa—which is observed in every case of recovery, however treated—appeared as usual.”

4. On the supposition that the collapse of cholera is due to the loss of fluid which has been occasioned by the vomiting and purging—a position which is by no means tenable—Dr. B. W. Richardson argues that good might follow the injection of water into the peritoneum or cellular tissue in *extreme cases*. The idea is not without ingenuity. Dr. Richardson writes:—

“The most important step that has as yet been made on the human subject towards supplying the exhausted system with fluids in cholera, is that of throwing a considerable quantity of fluid directly into the circulation through the veins; and it cannot be denied that, in practice, this plan has been attended with some amount of success. In contemplating the subject of transfusing watery matter into the system, the question occurred to me, whether any other means existed of introducing fluid matters into animal bodies in very large quantities, and in a manner which should secure their absorption. This thought led me to look back upon the pathological characters and treatment of those diseases in which serum is largely thrown out into serous cavities or cellular tissue. I recollected that, in cases of this class (dropsical cases), not only were several gallons of fluid often thrown out of the circulation into the system without immediate danger, but that patients thus situated could tolerate a degree of purgation which would absolutely destroy healthy individuals. This immunity must arise solely from the fact, that the effused serum lies as a reservoir, from which the circulation is fed while the purging is going on. The idea furnished an important suggestion; and I consequently commenced a series of experiments on animals, which, as they are as yet in an imperfect state, I shall only describe in general terms, reserving the particulars for my next report.

“The experiments up to this time have mainly consisted in exhausting dogs and cats by starvation and violent purgation, with large doses of elaterium, and afterwards ejecting either their peritoneal cavities or their cellular tissue

with large quantities of distilled water at the blood temperature. The results, in general terms, are as follows:—

“I find that either into the peritoneal cavity, or into the cellular tissue, a quantity of water, varying from a tenth to a fifth part of the weight of the animal, may be injected with little risk. The effect of this is to induce a sleepy condition, which lasts from twenty to thirty hours, long before which time all trace of the injection is lost. If more than this is thrown in, the sleep, or rather torpor (for the animal only remains quiet, and rouses when spoken to), ends in death. This was the case in one dog weighing ten pounds, into whose cellular tissue I injected three pounds of water. In animals that have been much exhausted, more fluid may be injected, and the absorption is greatly quickened. In animals which have died from the experiment, and have been examined immediately after death, I have never found any trace of the injected liquid; but the blood has always been exceedingly fluid, and has coagulated slowly, if at all. I should notice also, that in two cases, in which a cat and a dog were operated on while under the influence of an anæsthetic agent, they died; the one in four and the other in forty-eight hours, without ever rallying fairly from the effects of the narcotic. I should mention, too, that I have met with one or two casualties in the course of these experiments, which have arisen purely from their novelty, and cannot be considered as bearing on the merits of the system. Thus, in two young cats of the same age, I injected a sixth part of their respective weights of water into the cellular tissue of one, and into the peritoneum of the other; the result was, that the one whose peritoneum was injected, after remaining apparently well until three or four hours previous to death, died about twenty-four hours after the operation. On opening the body, all trace of fluid was absent; but I found that, from having made too large an incision into the peritoneum, and from the animal having reclined on the belly, about two inches of intestines had slipped into the opening, and had become strangulated and deeply congested. In another instance, where I inserted pins into two openings, erysipelatous inflammation came on in the surrounding skin; but not in another part of the body, where the wound was left untouched. In a third casualty which occurred to me, I learned a very useful lesson. Into the peritoneum of a dog three pounds of water were thrown, and one pound into the cellular tissue of the thigh. The animal seemed pretty well for a short time after the operation, and the fluid was absorbed in the course of three or four hours, although it constituted a fifth part of the weight of the whole body. In a little time, the creature gradually became exhausted, and died in eleven hours. On opening the body, I found that all the fluid injected had disappeared; but in the peritoneum there lay about a pound of semi-coagulated blood, which had escaped from an artery that had been wounded by the trocar. The blood in the veins and heart of this dog was like water itself, and showed no tendency to coagulate. The heart was flaccid and collapsed. In this case, the rapid absorption of the injected fluid arose doubtless from the hemorrhage, and from the too rapid and copious flow of fluid into the exhausted circulation. For, while the blood lost its solid constituents on the one hand, it gained too large an amount of water on the other. This animal had been reduced somewhat by purgation. Previous to the operation, he weighed twenty-six pounds; immediately after it, thirty pounds; and, at his death, a little more than twenty-four pounds. He must consequently have made use of all the injected fluid, and have lost somewhat more than one pound additionally, during the interval between the operation and death. Setting aside, therefore, these casualties, I infer from my experiments as they now stand, that into the peritoneum or the cellular tissue of a patient in a proper state of collapse from cholera, water to the extent of at least a tenth, or even a fifth, part of the whole weight of the body might be injected with safety, and that the absorption would be almost immediate.

“I am not at this moment able to say which of the two kinds of operation is best, but I am strongly inclined in favor of injecting the peritoneum; for, although the absorption of fluid from the cellular structure seems most rapid, the difficulty of introducing water in full quantities into the peritoneal cavity is much less, and the pain attendant is considerably milder. In either case, too much care could not be taken to throw the fluid slowly, to have it at a tempera-

ture not less than 62° Fahrenheit, and, if the peritoneum is the part injected, to be mindful not to distend the cavity to the extent of interfering with the action of the diaphragm.

"As yet I have no favorable opportunity of trying the suggestion I have here thrown out in cholera; but that it might be put into application in desperate cases, and might prove advantageous, I have no doubts whatever. The advantages of it would be:—

"*First.* That an abundant store of fluid would be supplied, which the exhausted circulating system would rapidly and effectually take up.

"*Second.* That, as this imbibition would take place through the capillary system, the fluid would enter the veins freely charged with the solid constituents of the blood, and would pass to the lungs in a condition suitable for respiration.

"*Third.* That the process would in no way interfere with the administration by the mouth of astringent solutions, or such other medicines or liquids as the practitioner might consider indicated.

"But although I am thus sanguine on this subject, I wish it to be understood that the first trial of this process should commence in a case where the patient is in the last stage of collapse, where other remedies have failed, and where death is imminent. This, it is true, would scarcely be putting the new remedial measures to a fair test; but my ideas of the value of life are so great, that I would not, even in so important a disease as cholera, recommend the employment of a new remedy wantonly, or without that due care for the welfare of the sick man which every honest practitioner of medicine intuitively feels."

Injection of water into the cellular tissue was tried in 1848, by Dr. Buchanan, of Glasgow, and this gentleman states the result of his experience as an answer to Dr. Richardson's proposal. Speaking of this practice, he says:—

"I found it to be altogether impracticable. I succeeded, indeed, in injecting water under the skin; but, in every instance, I found that I had injected it, not into the cells of the cellular membrane, but into a cavity formed by disruption; that is, by tearing the cellular tissue, and separating it from the skin and subjacent parts. I tried it, with the same unsuccessful result, both on the limbs and the trunk of the body. I recollect, in particular, of producing on each side, over the ribs, a swelling of the size of a child's head, but flatter. It looked like an abscess, and was probably exactly of the nature of a thrombus, or an ecchymosis, the result of violence. Although compressed by means of a bandage, it did not show any tendency to disappear, either by being absorbed into the bloodvessels, or diffused into the adjacent cellular tissue. I therefore abandoned the attempt, being satisfied, first, that I could not inject water into the cellular tissue so as to produce an equable distension of the cells; and second, that the injection in the way in which I employed it, was of no use as a remedy for cholera."

1. *Tropical Fever and Dysentery; being the result of an Experiment by order of Government in the General Hospital, Calcutta, and in the Garrison Hospital, Fort-William, in the years 1849–50, with a sketch of the theory resulting.* By E. HARE, Surgeon to the 1st Bengal Fusileers. (*Edinburgh Medical and Surgical Journal*, January, 1854.)
2. *Tropical Fever and Dysentery.* By E. HARE. (*Indian Annals of Medical Science*, April, 1854.)

The papers which form the subject of this article are virtually a reprint of the official report which was presented by Mr. Hare to the Medical Board of the Indian Government, in 1850. The subject, in our opinion, is of great practical importance, and we gladly give it all the prominence in our power.

The main object of the writer is to recommend quinia as a direct antidote in all kinds of tropical fever, and in some kinds of dysentery, and to urge the necessity of washing out the colon by repeated and copious injections in the latter affection, and in carrying out this object he appeals most ably to the history of past treatment, and to his own experience.

1. *Of tropical fever.*—The history of the changes which have taken place in the treatment of fevers of this kind is full of meaning. Unlimited confidence was

placed in *bark*, from 1638, when it was introduced into practice by the Jesuits, until the beginning of the present century; and deservedly so. Given after certain rules, the universal experience was that bark was the antidote of tropical fever, if bark could be given.

Such was the belief and practice until Dr. James Johnson appeared on the scene. This was in 1808. Then surgeon of a ship he treated his first case of tropical fever while at anchor in Diamond Harbor. He put in practice what he conceived to be the treatment by bark, and was disappointed. He neglected, however, to attend to certain precautionary measures which had been pointed out by experience as necessary to success; but he gave himself no time for reflection, and at once started off into a new path. And this path was a natural path under the circumstances. Broussais and Baillie were then in the ascendant, and the fashionable way of accounting for disease was to refer it to some local mischief of an inflammatory character, and, therefore it is no wonder that Dr. Johnson should decide upon salivation by scruple doses of calomel, and upon bleeding, as a proper way of treating the fevers under consideration. It is also the more natural that he should do so seeing that he himself had experienced the benefits of salivation, in a way which will best appear from his own graphic description:—

“As my night closed in, the exacerbation was great, and I was again delirious; on the third day my fever ran higher, with hot dry skin, and as night approached, my apprehension of the usual exacerbation, brought on extreme mental agitation. The surgeon endeavored to cheer me, with the hope of ptyalism, which he assured me would alleviate my sufferings [all this time he was taking calomel in scruple doses]; as the night advanced my symptoms became aggravated, and I was convinced a fatal termination must ensue; suddenly at 4 o'clock of this same night, salivation appeared, succeeded with such agreeable sensations, that I ejaculated aloud my heartfelt gratitude to Heaven for my deliverance.”

The end of the whole matter was that Dr. Johnson bled and salivated his next patient, and applied all his talents to induce others to do the same. In this he succeeded, and before long his treatment had become as general as that by bark had been previously. Like the treatment by bark, also, the treatment was successful. Even Mr. Hare says:—

“And the result I know from my own experience must have been successful, quite as much so perhaps, as the treatment by bark in its crude state. There cannot be a doubt, that if not calomel, yet certainly salivation, is an antidote to malarious fever. The instant a patient's mouth is sore, the fever leaves him; the mercury produces not the slightest effect till then, but from that moment the disease vanishes as if charmed; the change is from death to life, from extremity of suffering to calm and comfort.”

Like the treatment by bark, however, the treatment by salivation had its disadvantages. The consequences of a single salivation were often serious, and those of repeated salivations were always disastrous. Indeed, there is much reason to believe that the shattered appearance which was so characteristic of the returned East Indian, some time ago, was mainly owing to this cause.

The evil consequences of ptyalism in time lead to another change in treatment, and, by degrees it began to be the rule, either to give mercury in smaller quantities and simply as an antiphlogistic, or else to trust to a mere expectant treatment. By degrees, also, the old predilection in favor of bark began to revive, and quinia began to be given with more or less boldness as soon as the fears of inflammation would permit. And this is the mode of treatment which at present prevails. This mode of treatment, however, is by no means so successful as that by bark or ptyalism, and Mr. Hare's paper furnishes curious proof of this fact, in connection with the kindred affection—dysentery. He says:—

“I noticed that dysentery had been treated in the earlier days of the General Hospital, by scruple doses of calomel and mercurial frictions, whereas latterly, since 1846 onwards, calomel had been avoided as a poison, and sugar of lead and opium given, and on examining the Returns it appeared, that the mortality of the first four years, 1830 to 1833, had been only 1 death in 6, whereas in the last four years, 1846 to 1849, it had been 1 death in 3. Dr. Martin's tables also

show, that for 12 years from 1826, at the General Hospital, the ratio of mortality for dysentery, was only 1 death in 6.

"About the year 1833 to 1834, Dr. Twining's treatment by blue pills and ipecacuanha was introduced, and mercury in this milder form was given freely, almost without a change in the practice till 1846, when sugar of lead replaced it. The mortality during this period continued steadily, 1 death in 4; but from 1846 to 1850 it rose immediately to 1 death in 3. The records of the General Hospital afford, without doubt, the most accurate statistics in the world of dysentery. For this disease is the commonest of all there, and the treatment of every case is recorded, so that the effects of remedies upon large numbers, can be most minutely ascertained, from its weekly, monthly, and annual returns, deposited in the office of the Medical Board.

"But to assure myself more thoroughly of this strange fact, I obtained also the returns of the European Regiments in Calcutta, for the same 20 years. Mercury has never been so entirely relinquished by Regimental Surgeons, as in the General Hospital. Blue pill has, however, supplanted the former scruple doses of calomel and inunction, and accordingly the mortality for the first four years 1830 to 1833, was only 1 death in 9, whereas now from 1846 to 1849 it has been 1 death in 6½. Also in periods of ten years from 1830 to 1839, it was 1 death in 11½ only, and from 1840 to 1849, 1 death in 9. All statistics, therefore, of the most infallible kind, show a large increase of mortality by what is called our modern mild system of treating dysentery in Bengal, and where mercury has been entirely omitted, even a double mortality to what it was when salivation was early, and eagerly sought for."

This being the case, the expectant treatment being ineffectual, and the treatment by ptyalism being attended with such disadvantages—it naturally became a question with Mr. Hare whether it would not be well to return to the heroic treatment by bark, and whether quinia could not be altogether free from the only objection belonging to bark,—namely, that of deranging the stomach, and this the more, seeing that the history and analogies of the disease convinced him that this disease was allied to ague, and not to inflammation. The question was simply one of experience, and the answer was soon obtained. This answer, moreover, was of such a nature, that, after some preliminary difficulties, it was arranged by the Indian Government that the experiment should be tried in the General Hospital, at Calcutta. Of this trial Mr. Hare writes:—

"A large ward in the General Hospital was set apart for my patients, and I was placed under the orders of Sir James Thomson, by whom my patients were inspected, and my cases and reports with the medicines I used (checked by Dr. Macpherson), were sent through him monthly, for the information of the Board. Twelve months, to comprise all the seasons of the year, were fixed as the term of the trial, and my results compared with the average mortality for fever and dysentery at the same Hospital were the 20 previous years. All the fever patients, on admission to the Hospital, were sent to my ward for treatment, which was without exception simply Dr. Lind and Hunter's system, substituting only quinia for bark. I ordered my apothecary to give ℥j. of quinia the first moment of admission, before I could be called to see the patient, and one dose of castor oil, or jalap and cream of tartar if the bowels were not loose. If they were, this was omitted. The patients afterwards took 3, 4, or 6 scruples of quinia during the 24 hours. The more severe the fever, the more frequently was the ℥j. dose administered, till complete cinchonism was produced, viz., singing in the ears, and deafness. General bleeding and even leeches were rarely required, and only for plethoric sailors just arrived in the country. For these, one bloodletting (it was never repeated) often gave great temporary relief, and I always used it strictly on Dr. Macintosh's principles, just before the accession, to break the first paroxysm, and give time for the quinia to act. Bleeding after the paroxysm, even where the fever is decidedly continued, is often highly dangerous. I believe too that moderate bloodletting assists greatly in procuring the rapid absorption of quinia into the blood. Leeches were very rarely used. Purging I greatly object to, for my experiment on malarious dysentery convinced me, that it prevents absorption of the quinia. The bowels, however, require to be freed from their foul contents caused by the morbid secretions of the congested liver and intestines, for these

if allowed to remain, cause sickness of stomach, and vomiting of the quinia. I prefer much large enemata to purgatives, in all cases of fever, but my syringes were in such constant employment for my dysentery cases, that I could not conveniently use them for fever also. I would, in fact, treat with perfect confidence, any case of malarious fever, however severe, with quinia and cold water to wash out the bowels, and to apply to the head, liver, or other congested organ. I by no means, however, deny the extreme relief that a moderate bleeding at the proper time, often gives to a plethoric man. Leeches I have found of less value.

"I treated in this way 129 patients, with one death, the average in the General Hospital for the last 20 years, having been one death in every $11\frac{1}{2}$ fever cases. I had therefore less than one-twelfth part of the average mortality.

"Among the long-neglected cases of debauched sailors from the streets and shipping of Calcutta, who are the majority of the patients of the General Hospital, and are often sent there after they have been lying many days sick on board their ships, or wandering about the bazaars of Calcutta, till they are picked up insensible by the Police, and deposited in the hospital. Among such cases, I had of course most numerous patients, in all stages of delirium and congestion of the brain, and many with coma and black sordes on the teeth and tongue, some also with acute and ardent symptoms, but all had the same unvaried treatment, the only distinction made, being more frequent doses. For in these dangerous cases I always pushed the quinia most freely, yet the result was as above.

"But the Government was not content with this one trial, and I was placed likewise under the orders of the surgeon of Her Majesty's Regiment then in Garrison at Fort William. The dysentery and fever cases of half, viz., five companies of the regiment, were sent to me, and the remaining cases from the other five companies to the surgeon.

"The surgeon had the ward in the upper story, I had the lower, a difference which all who have treated malarious diseases in Bengal, know to be very considerably against me. My cases were kept in a book, with the medicine prescribed, and recorded symptoms, open for the inspection of the surgeon, who daily visited and minutely inspected my patients.

"The result for fever was 292 cases, and two deaths. The surgeon had 279 cases and four deaths, that is more than double my mortality, though his patients had quinia in the usual doses after a remission had been procured. The saving of life in my ward, was therefore procured by my scruple doses to saturate the system *at once*. The Board also acknowledged in their Report, p. 22, that the average period my patients were under treatment, was much smaller than that shown by all the other Returns received by them for the whole Presidency, during the same period.

"I thus treated 421 cases in all of Bengal fever, and during the experiment some remarkable facts were observed. My orders to my apothecary in both wards were, to give scruple doses of quinia to every patient with symptoms of fever, from the very first moment of admission, and they often thus got 40 grains of quinia before I saw them. During part of the year, viz., March, April and May, small-pox and measles raged like an epidemic in Calcutta. Numbers of these patients in their early stages, before the appearance of any eruption, were sent to my ward as fever cases, and were treated as the rest with large doses of quinia, sometimes for 36 hours before I could detect their disease. Almost all these cases terminated fatally. Latterly, however, I was able to avoid these errors, by watching the effect of the first dose of quinia. For in cases not malarious, it invariably caused great uneasiness, without any benefit to the general symptoms. Moreover, deafness and singing in the ears were very quickly induced, whereas in malarious fever with the same ardent symptoms, the quantity of quinia taken without producing any cinchonism was often extraordinary, and so far from uneasiness, it seemed always to give relief, and the febrile symptoms yielded rapidly under its use. One scruple dose of quinia will cause most evident feelings of cinchonism in a healthy man, and yet a bad fever case will take 4 to 6 scruples daily, for often three days, without any symptom but recovery."

This statement must speak for itself.

2. *Of dysentery.*—In the treatment of dysentery, Mr. Hare trusts to quinia, in conjunction with injections—not one or two small injections in regular routine at distant intervals, but twenty injections daily if they are required, and in sufficient quantity to wash out the colon from end to end. He thus describes his treatment in the General Hospital.

“The moment a patient was admitted, his bowels were thoroughly washed out by a powerful syringe, with a flexible tube passed above the sigmoid curve, when water without limit in quantity was slowly injected by a powerful pump, till the patient complained of the distension, and the abdomen was visibly enlarged. This passed away by stool, completely emptying the bowel, and always gave the greatest relief, putting a stop at once to the straining constantly at stool without passing anything, but a little acrid fluid, or bloody mucus. These painful symptoms were at once removed by the large enema.

“If the patient was plethoric, or had much febrile heat of skin, or pain on pressure to the bowel, he was bled once fully, and took a good dose of opium. The man then soon falls asleep, generally with copious perspiration from the warm water and opium. When he wakes another large injection is given, to wash out any remains of irritating secretions, and leeches, if necessary, with fomentations were applied, freely to any part of the colon which was painful on pressure, and a third injection given before night, with another dose of opium. The patient generally by this time is convalescent, but the injections are carefully continued, whenever the slightest griping or uneasiness recurs, during the next day or two. The same treatment by injections is also equally necessary, when the colon contains not solid, but principally liquid excretions. For these, whether bilious, or secretions from the inflamed mucous membrane itself, are always in all forms of dysentery intensely acrid.

“The whole object then of the treatment is, to wash out these carefully, to constantly renew the ablutions and fomentations with warm water enemata, and to calm with opiates or bleeding, the constitutional excitement. To place in short the inflamed bowel in a state of perfect rest, and keep it so, by never allowing its acrid contents, whether fluid or solid, again to remain in it. If, however, there be the constitutional symptoms of malarious fever, and much hemorrhage from the bowel, I then gave, as above, quinia to saturation, and for the present delayed the bleeding as much as possible, by injections of cold water containing sugar of lead or alum, which at the same time cleanse the colon of all fecal matters, or irritating fluid secretions.

“Now it will appear wonderful that such simple and obvious treatment, should have escaped notice for so common and fatal a disease, during so many centuries, and neither has it failed to be observed by many, I may say all, who have treated dysentery. But till O’Beirne discovered that a flexible tube can be passed into the bowel, without danger or pain beyond the sigmoid flexure, injections however much desired, could not be given in the more severe cases. For the rectum is so sensitive, and so largely supplied with nerves, that when inflamed, it immediately contracts on the injection and expels it, if more than 3 or 4 ounces be attempted; whereas to wash out the colon thoroughly, requires 6 or 7 pints. Bamfield did not use injections, because he says, p. 126, that they were rejected without *fæces*, immediately they reached the rectum and lower part of the sigmoid flexure. Annesley, p. 279, evidently likes injections, but never used more than 12 ounces, because ‘the slightest distension of the rectum and sigmoid flexure, expelled them again without *fæces*, only a little fluid matter, but even this (he says) is an object worth attaining, and should not be neglected.’

“By passing an elastic tube beyond the sigmoid, I have found in more than 300 cases of the severest form of dysentery, not the slightest difficulty in washing out the colon, from *cæcum* to anus. It is in fact the most cleanly, and best way possible for administering an enema. The flexible tube *separately* from the syringe is introduced under the bed-clothes without exposure. At a movement of the hand the assistant brings the syringe fixed on a small stool, places it by the bedside, attaches the flexible tube, and moves the piston up and down with a steady slow motion. I trained my assistants to perform the whole process without a word uttered. The finger was raised and he ceased pumping, it was

depressed and he renewed it. A sign was made with the hand, he took away the whole apparatus from the bedside, and the elastic tube was then removed from the bowel. The most delicate lady could not object to such an operation, the relief too is instantaneous, and the bedding is not constantly wetted, as by the common short enema pipe, from the water running backwards from the anus."

And again, as to the reasons for, and the results of this practice.

"By large injections we may wash out daily, with the most soothing applications, the excoriated intestine, removing its acrid secretions, and the fermenting half-digested fæces, fomenting its tender surface the meanwhile, and softly stretching the strictured parts, with the gentle expansion of water, and when in the colon thus daily cleansed and soothed, the inflammation and irritation have calmed, what numerous applications are there, which can be applied by the elastic tube, to the whole diseased surface of the colon, from the cæcum to the anus, gently to constrict the overstrained vessels, and heal the ulcers! The great value of such medicines as alum, nitrate of silver, sulph. of copper, &c., in ulceration of other mucous membranes is notorious, and there can be no reason assigned, why they should have less effect on the colon. I have already used them largely with perfect safety in the General Hospital, with most decided results, and have collected cases, where the colon showed the scars of extensive ulceration up to the cæcum, and which were quite healed, by the use of repeated injections of alum, and occasionally nitrate of silver.

"The long tube, in fact, changes an internal disease into an external, and enables us to apply the same treatment, of cleanliness and various lotions to the colon, that we would with certainty of cure to ulcers of the mouth.

"One other great advantage we also obtain by this treatment, that we can support the patient, emaciated by chronic dysentery, with good food, instead of the milk and low diet now given, and thus by strengthening the constitution, greatly assist the healing of the ulceration, for we need not, with injections, fear the accumulation of undigested food in the intestine. Bamfield, p. 234, says: 'The healing of an ulceration of the intestine is a process of Nature, carried on under such disadvantages (irritation of fæces and constant purgatives) as will, from every probability, require a long time for its completion, even in the most favorable circumstances. It is indeed observed by Galen, that ulceration of the intestines, more readily admit of cure, than of other internal organs, because medicines injected in the form of enemata, become immediately applied to the affected parts; but it must be *evident* (says Bamfield) that this rule can only apply when the ulcer is within reach.'

"We have now, however, most effectual means of reaching them, and the success of which has been shown in my Calcutta experiments. If however, we can trace fever, scurvy, bad water, &c., as the primary cause of the chronic dysentery, we must apply our remedies to these also, at the same time that we soothe and palliate the local disease.

"I must remark, in conclusion, on malarious dysentery, that if the above treatment by injections be not adopted, statistical facts of the most undoubted kind, prove the necessity of our returning without delay to the salivating system. For the Returns of the largest and longest established Dysenteric Hospital in the world, show that since mercury has been avoided, the mortality has been double for many years' continuance, what it was when salivation was sought for, as the first and only object of treatment, and to complete the remarkable proof of the importance of mercury (if my system by quinia and injections be not received), these statistics clearly show, that as mercury has gradually been disused, so the mortality has correspondingly increased. If statistics then are, as they ought to be, our only guide to rational practice, our path is clear, we must return to salivation till some more successful method be discovered. But the fact, that of treating 346 cases in Calcutta, I had but 4½ per cent. deaths, will, I hope, induce a trial of large injections by others, and thus prevent the necessity of resorting to the more injurious remedy, mercury."

In conclusion, we would recommend these views to the attention of our readers, and we especially congratulate the 1st Bengal Fusileers, whose surgeon

Mr. Hare is, on having such a man to watch over their health in their present malarious destination—Rangoon.

1. *On the Blood and Effused Fluids in Gout, Rheumatism, and Bright's Disease.* By A. B. GARROD, M.D., Physician to University College Hospital, &c. (*Medico-Chirurgical Transactions*, vol. xxxvii.)
2. *On Gout and Rheumatism, and the Differential Diagnosis, and the Nature of the so-called Rheumatic Gout.* By A. B. GARROD, M.D. (*Medico-Chirurgical Transactions*, vol. xxxvii.)
3. *Illustrations of Gout and the Gouty Diathesis.* By J. BEGGIE, M.D., F.R.S.E., Physician in Ordinary to the Queen in Scotland. (*Edinburgh Medical and Surgical Journal*, Jan. 1854.)

The two papers of Dr. Garrod, the titles of which are appended, are of very great importance. They are very beautiful instances of clinical investigation; but their real claim to attention is that they afford an answer to a question of great intricacy—the diagnosis of gout and rheumatism. This they do by showing that the presence of an excess of uric acid in the blood is a *pathognomonic sign* of gout. Gout is thus distinguished from rheumatism, and the hybrid affection called *rheumatic gout* is done away with.

In 1848 Dr. Garrod communicated a paper to the Medico-Chirurgical Society, which was published in their *Transactions*, and in which he endeavored to establish the following points:—

1. The discovery of uric acid in the blood.
2. Its existence in very minute quantities (mere traces), in healthy human blood, and in that of some of the lower animals, as the duck.
3. Its augmentation in the blood in certain pathological conditions of the system.

His mode of demonstrating the presence of uric acid, at this time, was complicated, and not readily, if at all, available for ordinary clinical purposes; and the paper, therefore, met with less attention than it deserved. Shortly afterwards, however, he devised another test, which is equally simple and effectual, to which he gives the name of "Thread-Test." This test is thus performed:—

"Take from one to two fluid drachms of the serum of blood, and put it into a flattened glass dish or capsule; those which I prefer are about three inches in diameter, and about one-third of an inch deep, which can be readily procured at any glass-house; to this is added the strong acetic acid of the London Pharmacopœia, in the proportion of about six minims to each fluid drachm of the serum; a few bubbles of gas are generally evolved at first; when the fluids are well mixed, a very fine thread is introduced, consisting of from one to three ultimate fibres, from a piece of unwashed huckaback or other linen fabric, about one inch in length, which should be depressed by means of a small rod, as a probe or point of a pencil. The glass is then put aside in a moderately warm place, until the serum is quite set and almost dry; the mantel-piece in a room of the ordinary temperature answers very well, the time varying from eighteen to forty-eight hours, depending on the warmth and dryness of the atmosphere.—

"Should uric acid be present in the serum in quantities above a certain small amount noticed below, it will crystallize, and during its crystallization will be attracted to the thread, and assume a form not unlike that presented by stone sugar upon a string. To observe this appearance, a linear magnifying power of about fifty to sixty, procured with an inch object-glass and low eye-piece, or a single lens of one-sixth of an inch focus, answers perfectly. The uric acid is found in the form of rhombs, the size of the crystals varying with the rapidity with which the drying of the serum has been effected.

"To insure perfect success, several precautions are necessary.

"1. The glasses should be broad and flat, as above described: watch-glasses of the ordinary kind are not good, being too small, thus allowing the fluid to be frequently spilt; and too much curved, causing the film of partially dried serum to curl up and split.

"2. The acetic acid should be neither very strong nor weak. Glacial acid often forms a gelatinous compound with the albumen of the serum, and the appearance of flakes; and very weak acid adds unnecessarily to the bulk of the fluid. By experience I find the acidum aceticum (Pharmacopœia Londinensis) to be well suited for the experiment.

"3. The character of the thread and its quantity is of some moment. Very smooth substances, as hairs or fine wire, but imperfectly attract the crystals; if the number or length of the fibres be too great, and the amount of uric acid small, the crystals become much scattered, and therefore but few appear in the field of the microscope. The glass should not be disturbed during the drying of the serum, or the crystals become detached from the thread.

"4. Some attention to temperature is necessary; if the serum be evaporated at a high temperature, above 75° Fahr. for example, the drying may take place too rapidly to allow crystallization; the temperature of an ordinary sitting-room answers well for the purpose.

"5. If the serum is allowed to dry too much before the examination takes place, the surface becomes covered with a white efflorescence consisting of phosphates, which may obscure the thread; this can be removed by the addition of a few drops of water before putting the glass under the microscope; sometimes over-drying causes the serous film to become cracked or fissured throughout, as well as covered with the phosphatic efflorescence.

"6. It is well, when practicable, to put up two or more glasses with the same serum.

"7. The blood should be recently drawn; that is, no change or decomposition should have been allowed to take place before the experiment is made; the reason for this precaution will be spoken of below."

This test is very delicate, but not too delicate; for it only reveals that excess of uric acid which constitutes disease. Dr. Garrod determines this point by some very careful and ingenious experiments with urate of soda, the particulars of which are given in his papers.

In the course of the inquiry Dr. Garrod was led to notice the change which uric acid naturally undergoes, and so on to some very important practical deductions, which may best be noticed in this place. He found, indeed, that the uric acid readily disappeared out of the serum, and that he could not detect it, even though before present in large quantities, when the serum began to putrefy—or rather, when it began to experience those changes which end in putrefaction. On inquiring further into this matter he found that when uric acid is submitted to the action of certain oxidizing agents, as the puce-colored or per-oxide of lead, it is broken up into oxalic acid, urea, and allantoin, and that when the oxide is further in excess, the oxalic acid is further oxidized and converted into carbonic acid. Dr. Garrod proceeds:—

"This fact led me to try whether oxalic acid might not be formed in the blood-serum from a change in the uric acid, and for this purpose I made daily observation on such serum during its decomposition, and found evidence of the formation of oxalic acid in the occurrence of octohedral crystals of oxalate of lime; after a time these crystals appeared to become less numerous, and at last to vanish. I have also evaporated the serum when decomposition was taking place, and treated the residue in the manner described in my paper on 'The occurrence of Oxalic Acid in the Blood,' published in the 32d volume of the *Medico-Chirurgical Transactions*. Many crystals of oxalate of lime were thus obtained, for the most part octohedra, some agglomerated into oval bodies, some similar to dumb-bells. To make the experiment more conclusive, I have taken serum of blood, not containing any appreciable amount of uric acid, divided into two parts, and to one portion have added urate of soda in small amount, and allowed both quantities to decompose; it was found that in the portion of serum to which the urate had been added, oxalate of lime octohedra were formed, but not in that portion free from uric acid. The microscopic examinations were made with object-glasses giving a linear magnifying power of from 200 to 400. Much further investigation is required on this subject; enough, however, has been done to show that the study of these changes is not without interest to the pathologist, for there can be little doubt that oxalic acid is formed

in the animal body, not, as formerly supposed, from the oxidation of saccharine matters, but from the decomposition of uric acid. Very many observations on the occurrence of oxalic acid in the blood of man and the lower animals since the publication of the paper above referred to, have convinced me that such is the case."

This fact furnishes an explanation of the occasional coincidence of the gouty and oxalic diathesis—a coincidence which is stated in a note to the paper by Dr. Begbie, the title of which is prefixed to the article. "It has been remarked," writes Dr. Begbie, "that the gouty parent often transmits the nephritic affection without the gout to his offspring, and that this frequently happens on the *female* side. It has also been remarked that the urinary concretions of the gouty belong to the lithic acid diathesis. It has not been sufficiently, if at all, noticed that they often belong to the oxalic. I have two gouty patients now under my care, who derive their disease from hereditary descent. The eldest son of the one, before his thirtieth year, has had frequent attacks of nephralgia, and lately voided a urinary concretion, which was found to consist of the oxalate of lime. The eldest daughter of the other, while still a girl of twenty, has had frequent attacks of a nephritic kind, accompanied by hematuria; and in her case the urine is persistently loaded with large crystals of the same earthy matter" (*op. cit.* p. 3). The whole subject is one of deep interest, but we feel satisfied that Dr. Garrod gives the clue to the explanation, and that the oxalic acid diathesis is affiliated to the gouty diathesis, because uric acid is readily transformed into oxalic acid, and that oxalic acid is not formed by the transformation of sugar (a most difficult matter under any circumstances, and impossible under these), as we have been taught to believe. The whole subject is one of great practical importance.

Dr. Garrod, also, determined several other points of interest in connection with the history of uric acid. Contrary to expectation, he is not able to find it in the perspiration of gouty subjects. He found it in certain morbid effusions, as in the peritoneum and pericardium, and also in blister serum. Curiously, however, he did not find it in the serum of blisters which had been raised on parts actually suffering from gouty-inflammation, and he found a palpable diminution during the presence of other inflammatory action; and from these facts he concludes that inflammation is to some degree destructive of uric acid. He finds, moreover, that the appearance of uric acid obtained from blister-serum is somewhat different from that obtained from blood serum.

The great practical bearing of this discovery of uric acid, and of the "thread test," is the diagnosis which it affords between gout and rheumatism. The fact is, that uric acid is present in gout but not in rheumatism, and when subjected to the test, that rheumatic gout has no existence. This is the burden of Dr. Garrod's second paper.

This idea was first communicated to the Medical and Chirurgical Society in 1848, and published in their *Transactions*. Then it was based upon four cases of gout, and four cases of rheumatism; now it rests upon the result of 177 examinations of the blood of 148 separate patients. Dr. Garrod says:—

"I have avoided referring here to any case of either gout or rheumatism, when the blood has not been examined, although during the time in which these have been accumulating, very many others have come under my care.

"The plan adopted for tabulating the patients, has been to divide the cases into four different classes.

"1. Articular affections, in which was demonstrated the *presence* of an abnormal amount of uric acid in the blood.

"2. Articular affections, in which the *absence* of uric acid in the blood was shown.

"3. Articular affections, proved to be closely connected with *urethral* affections.

"4. Affections *non-articular* in character."

The cases belonging to these four tables are stated with considerable circumstantiality. Table I. contains 47 cases:—

"From a review of the symptoms exhibited by patients in Table I., it is evident that the majority of them are such as no physician would hesitate to affirm to be those of *true gout*, and in some whose symptoms were not so striking during the attack under consideration, the history at once gives the clue to the

nature of the disease ; still there are a few, where no hereditary predisposition could be discovered, who never had the great toe specially affected, who never appeared, from their own statements, to have lived very freely, whose symptoms might, according to the definition of the diseases gout and rheumatism usually given, be referred either to gout or rheumatism, provided that the condition of the blood, or the effects produced upon the disease by remedies, were not taken into consideration ; and it is the true nature of such cases that it is the especial object of the present communication to endeavor to elucidate. Very many patients called the disease under which they were laboring, *rheumatic gout*, and on questioning them, said that their former medical attendants had so called it ; as a rule, however, it was not the really difficult cases which were so named, but those in which the patient had formerly suffered from acute gout, but which disease had, in process of time, merged into a chronic affection. Not unfrequently, these so-called rheumatic gout patients exhibited abundance of chalk-like deposits of urate of soda in different parts of the body. With regard to the amount of uric acid contained in the blood, I think that it bears no direct proportion to the intensity of the local symptoms ; often, I believe, an inverse ratio may hold good, as I have reason for suspecting that the local inflammations tend greatly to destroy this body, and therefore, in cases where the joint affection has remained a long time, we should not be surprised to find it greatly diminished.

The actual summary is as follows :—

The average age of patients was,	47 years.
The males formed,	about 95·0 per cent.
Hereditary predisposition was traced,	in 50·0 "
Free living and drinking had existed,	75·0 "
Painters or Plumbers formed,	24·3 "
Drink acted as the exciting cause,	in 39·5 "
The great toe had been specially affected,	82·9 "
No great toe affected,	5·7 "
Doubtful,	11·4 "
Œdema noticed,	68·5 "
Deposits of urate of soda,	45·9 "
Acute cardiac affection,	none.

Table II. contains an account of 35 cases of articular disease, not connected with urethral affection, and in which no uric acid was found in the blood. The majority of these were such as a physician would pronounce to be cases of true rheumatism. This is their summary :—

The average age,	was 30 years.
The males formed,	but 40·0 per cent.
Hereditary affection was traced,	in 33·0 "
Cold acted as an exciting cause,	88·8 "
Œdema noticed,	12·9 "
Acute cardiac affection,	41·9 "
Deposits of urates of soda,	none.
Great toe especially affected in,	none.

" In Table III. will be found the results of the examination of the blood in 6 patients ; in whom, although the joint affection simulated very closely true rheumatic disease, yet were separated from the cases in Table II. on account of a clear relation being established with urethral inflammation ; it was not thought necessary to enter into detail with regard to these ; suffice it to say, that the larger joints were generally most affected, that in none was cardiac affection present, and that the febrile disturbance was by no means proportionate to the joint affection, when compared with genuine acute rheumatism, thus separating them from the cases in Table II. ; and from those in Table I., the want of special great toe affection, and the absence of uric acid in the blood, at once serves to remove them completely.

" All the patients in this Table were males.

" Table IV. gives the results of the examination of the blood from sixty patients suffering from various diseases, and it will be noticed that uric acid was stated

to be absent in forty-seven, and present in thirteen. On making an analysis of these thirteen cases, it is found that five were patients suffering from albuminuria, temporary or permanent, a disease which, as I have observed in a former paper, may or may not be accompanied with excess of uric acid in the blood; and the above results fully confirm my former statement, for we also find in Table IV. other cases of the same disease where no uric acid was discovered. One was a case of cholera, and during collapse both urea and uric acid are retained in the circulating fluid. (I might have given other analyses in this disease, showing this fact, but they have already been brought forward in a paper on the "Pathological Condition of the Blood in Cholera.") In a specimen of blood from a surgical ward, stated to be from a patient with inflammation of the eye, a trace of uric acid was exhibited by the thread experiment; nothing was known of the case, whether gouty or not: again, a few crystals were seen in a case of a man with pneumonia, and much in one with bronchitis,—with regard to the pneumonic patient, it could not be discovered that he had ever had gout, and a very small amount only of the acid was found; the bronchitic man, although nothing is stated in his history as to any hereditary predisposition to gout, yet exhibited peculiar nervous symptoms not at all unlike those which precede a gouty attack, and these perhaps may be explained by the condition of the blood. In Table I. is contained a case which bears upon this subject; the patient, Clubb, was admitted for chest affection, bronchitis, and emphysema; the blood was examined, and found loaded with uric acid; the affection did not yield to the ordinary treatment for bronchitis, but after a few days the chest symptoms almost instantaneously vanished upon the appearance of gout in the great toe and knee.

"With regard to the remaining four cases, I may state, that they were not suffering from articular disease; and the nature of the affection is withheld on account of the subject having much interest, and being at present under investigation."

This is a sketch of the evidence upon which Dr. Garrod endeavors to show that the presence of an excess of uric acid in the blood is pathognomonic of gout, and that rheumatic gout has no existence. It does not help us to distinguish between ordinary rheumatism and the rheumatism connected with urethral affection, or a purulent condition of the blood; but it is a great point gained to be able to distinguish gout from these affections.

Dr. Garrod states that the blood is *always alkaline* in gout and rheumatism, and that no condition of the urine is of itself characteristic of either of these affections.

Clinical Lectures on Paralysis, Disease of the Brain, and other affections of the Nervous System. By R. B. TODD, M.D., F.R.S., Physician to King's College Hospital. (12mo., Churchill, 1854, pp. 462.)

These lectures were delivered on various occasions, during the last ten years, in King's College Hospital, and some of them have appeared in one of the weekly periodicals. In this way we have already had occasion to notice several of Dr. Todd's opinions, just as in a previous page of the present volume we have had to notice his theory of epilepsy.

It is not easy to trace the steps of an author through the meanderings of a clinical lecture, where at every step he is obliged to turn from the direct course to suit the peculiarities of the case which serves as his theme; and for this reason, and because our time is short, we will take what we conceive to be the shortest way with the quotations and remarks we are about to make. We begin at once with Dr. Todd's remarks upon the varieties of cerebral paralysis.

"First, and most commonly, you have the typical hemiplegia of diseased brain, that is, a brain affected with some distinct and special lesion, such as an apoplectic clot, a softening involving a considerable portion of the centre of volition, or a tumor in this centre, or compressing it. With this you may contrast the rare but not less certain spinal hemiplegia caused by a lesion involving one half of the spinal cord, just below the decussation of the pyramids. Thirdly, you may have hemiplegia consequent upon an epileptic attack, in which the

paralysing lesion is generally transient, and the palsy remains only a few hours, or at most a few days, after the epileptic attack. From this close connection between the paralysis and the epileptic fit, I prefer to mark this form of hemiplegia (although it may strictly be classed with the cerebral hemiplegia) as *epileptic hemiplegia*. Fourthly, you may have hemiplegia following, and sometimes, although rarely, preceding chorea—*choreic hemiplegia*. Fifthly, you meet with a peculiar and less perfect form of hemiplegia in hysterical women—the *hysterical hemiplegia*; and in nervous, hypochondriacal men I have seen an analogous form brought on under the influence of strong emotion. Lastly, you have a form which, from its mode of access, creeping as it were from periphery to centre, you may call *peripheral hemiplegia*—the *creeping palsy* of Cheyne.

The various remarks which occur here and there upon the diagnosis of these different kinds of palsy, are very interesting, and particularly those which concern the *hysterical* variety. The movement of the leg, in Dr. Todd's opinion, is characteristic. Thus:—

“If you look at a person laboring under ordinary hemiplegia from some organic lesion of the brain, you will perceive that, in walking, he uses a particular gait to bring forward the palsied leg; he first throws the trunk to the opposite side, and rests its entire weight on the sound limb; and then, by an action of circumduction, he throws forward the paralyzed leg, making the foot describe an arc of a circle. Our patient, however, does not walk in this way; she drags the palsied limb after her, as if it were a piece of inanimate matter, and uses no act of circumduction, nor effort of any kind to lift it from the ground; the foot sweeps the ground as she walks. This I believe to be characteristic of the hysterical form of paralysis.”

Elsewhere, Dr. Todd speaks more at large on the same subject.

“The diagnosis of *hysterical paralysis*, whether it be of the hemiplegic or paraplegic form, or whether one limb only be affected, depends on these points:—

“1st. The hysterical constitution of the patient herself and of her family; and there are certain signs which, as you know, are held to be indicative of the *hysterical diathesis*, such as a lax condition of the tissues generally, a peculiar fullness of the upper lip, drooping of the upper eyelids, &c.

“2d. The absence of signs of lesion of the nervous centres.

“3d. The characters of the paralysis itself; the absence of palsy of the face and tongue; the peculiar movement of the leg in progression; the fact of the paralysis not being complete, the muscles not being so much wasted, and the fact of the patient being sometimes able, under the influence of strong emotion, to use the paralyzed limb as well as the sound one, or nearly so. But you will not fail to recollect that, even in decided lesion, the paralyzed arm is sometimes moved in yawning or sighing, or under strong emotion.”

In diagnosing the other and more ordinary forms of paralysis, it is directed that particular attention should be paid to the state of the arteries and heart, and very wisely so.

“In all cases of cerebral hemiplegia,” says the author, “I advise you to pay minute attention to the investigation of the arterial system, and also of the heart. In old persons, or those somewhat advanced in life, we often find in the state of the radial or temporal artery a clue to the condition of the arterial system in general, and of the arteries of the brain in particular. In feeling the pulse you should roll the artery beneath your finger, and examine in this way as long a portion of it as you can get at. If the artery be diseased you will find a thickened state of its wall, and sometimes you will be able to detect distinct deposits in it, which now and then will be hard and resisting, owing to their admixture with earthy matter. You will be careful likewise to examine and compare the arteries of both sides, when you will often find corresponding states, and that the deposits exist more or less symmetrically. And this should confirm your suspicions, that the diseased state is not limited to the radial or temporal arteries, but exists pretty extensively throughout the arterial tree.

“Your conclusions respecting the morbid state of the arteries will receive further confirmation if, on examining the heart, you obtain evidence of its being in a state of hypertrophy, for a morbid state of the arteries is a fruitful source of

hypertrophy of the heart. But, indeed, a disease of the heart of any kind, in advanced life, is very liable to be accompanied with a more or less diseased state of arteries."

Apropos of this subject, Dr. Todd takes occasion to speak of arterial plugging, as a cause of hemiplegia. He says:—

"Nevertheless, I must confess that I am not convinced that in cases such as Virchow and Kirks refer to, the stoppage of the arterial circulation is always caused by a plug accidentally brought from a distant part of the circulation. I should be more disposed to refer it to a coagulum formed in the artery, promoted by an altered nutrition of its wall—*arteritis*, if you choose so to call it—and connected with a rheumatic or other morbid state of blood."

The great point which is inculcated in the lectures under consideration, however, and that which constitutes their chief originality, is the use which may be made of the condition of the muscles in paralysis as a means of diagnosis and classification, and as a guide in treatment. This subject is one of extreme interest, and it may be said to be Dr. Todd's own. Speaking of a case, which it is not necessary to cite, Dr. Todd says:—

"A very interesting and important feature in the paralysis in this case, is the accompanying spastic or rigid state of the muscles. This rigidity, according to my experience, if it supervene early in the paralytic seizure, or simultaneously with the paralysis, indicates irritative disease within the cranium. It is not uncommon, however, to meet with cases in which there has been very complete paralysis, with perfect resolution of the muscles; but after a time these muscles slowly become rigid, the fingers become flexed, and sometimes firmly pressed against the palm of the hand, the hand bent upon the forearm, and the forearm upon the arm, with a tense and spastic, although wasted condition, of the muscles. This late form of muscular rigidity you must carefully distinguish from the early one, inasmuch as the former indicates that there has been loss of substance in the brain, and that the cicatrix is undergoing contraction.

"You will meet, in practice, four different conditions of the muscles in paralytic limbs in different cases. The first differs scarcely at all from that of the healthy muscles; the muscles exhibit, perhaps, less firmness, and are less excitable by the galvanic stimulus, when the paralyzing lesion is not of an irritative kind. A second condition presents complete relaxation of the muscles: they are soft, imperfectly nourished, and waste with wonderful rapidity; so that under a paralysis of a few days' duration the size of the limb experiences a very marked diminution. In these muscles there is a very little excitability to the galvanic stimulus—sometimes almost none. This is the most complete condition of paralysis, in the strict sense of that term, and it is sometimes accompanied with phenomena which denote a depressed state of the general nutrition of the limb: the pulse in the large arteries of that side is weaker; there is sometimes more or less of œdema, especially if the limb be kept in a dependent position: and the heat of the limb is imperfectly maintained. Some of these cases get well; others continued paralyzed, although the general health of the patient improves, and the muscles become wasted to mere membranes; others, again, continue paralyzed, but the muscles gradually assume a condition—the third condition to which I wish to call your attention—one of contraction and rigidity, the flexor muscles always exhibiting this state to a greater degree than the extensors. The muscles are still wasted, but they are stretched like tense cords between their origins and insertions. The biceps in the arm, and the hamstring muscles in the thigh, project beneath the skin like tense membranes. This condition is due to a chronic shortening of the muscles themselves; they are tense, but not firm nor plump; it is undoubtedly a form of muscular atrophy, of which a contracted and rigid state is a prominent feature. A fourth condition is illustrated by our present case. The muscles suffer very little, or not at all, in their nutrition; they are either constantly firm and rigid, or become so on the slightest movement of the limb; the paralysis is seldom complete. In these cases there is more or less of an exaltation of nutrition—the circulation in the limb is vigorous, and its heat is not below the standard of the other limb;

and it is frequently more excitable by galvanism than the corresponding muscles on the other side.

"I must beg your particular attention to these various states in which the muscles of paralytic limbs are found. You may draw practical inferences from them of great value in treatment: when the condition of rigidity is present early, your patient will bear local bleeding or local counter-irritation, or both; and may derive benefit from these measures, provided other symptoms do not contraindicate them. The state of complete relaxation affords no indication for antiphlogistic treatment; but, on the contrary, in many of the cases in which it occurs, it should be regarded as affording a contrary indication. As to that condition in which the muscles assume the contracted state gradually, and some time after the paralytic seizure, I wish much it were in my power to suggest some means of arresting it. Some slight benefit is gained by subjecting the limb to frequent extension at stated periods in the day: this, I believe, will retard the contraction, so long as it is diligently persisted in; but when it has been laid aside, the contraction will go on just as if the extension had never been employed. The case is analogous to that of stricture in the urethra, or of the cicatrix after a burn, which exhibit a remarkable tendency to contract, requiring in the former case the long-continued use of the bougie, and in many instances its frequent employment throughout the entire life of the patient. In both instances, indeed, I believe I am correct in saying that surgeons have hitherto failed in finding any means to check effectually the tendency to contraction."

* * * * *

"Looking, then, to the state of the muscles of the palsied limbs, I arrange cases of cerebral hemiplegia in three classes:—

"The first class consists of those cases in which the muscles of the paralytic limbs are completely relaxed. The limbs are loose and flaccid, and if you flex the forearm upon the arm, or the leg upon the thigh, you find no resistance or opposition to that movement. When you feel the muscles, you find them lax and flabby, contrasting more or less with the firmness and plumpness of those of the sound limbs, and they are more or less wasted according to the period of time which has elapsed since the paralytic seizure.

"In the second class I place those cases in which the paralyzed muscles exhibit a certain amount of rigidity, *which rigidity has existed from the moment of or soon after the attack*. This rigidity varies in degree from an increased plumpness of the biceps of the arm and the hamstring muscles in the thigh, and a resistance on the part of these muscles to extension of the forearm or leg, up to a contraction almost tetanic. The nutrition of the muscles in cases of this class is not materially weakened at first, and the wasting is consequently either *nil*, or to a very trifling extent. If, however, the palsy persist, the muscles waste, although not so fast as in the first class of cases.

"In the third class, we find cases with rigid muscles likewise. In these cases the rigidity is a late phenomenon. It does not occur for some time after the paralytic seizure. The cases of the first class often pass into this. The wasted and relaxed muscles after some time gradually acquire more or less of tension; they become shortened, and appear like tight cords stretched between their origin and insertion. The tension is most manifest in the flexor muscles, and the limbs assume the state of more or less flexion, especially the upper extremity. The forearm becomes strongly contracted on the arm, and the fingers flexed into the palm of the hand, which is liable to be irritated by the growth of the nails."

(a) Of the paralysis of the first class it is not necessary that we should speak.

The paralysis of the second class—that with early rigidity of the paralyzed muscles, has two varieties:—

"The one in which the rigidity of the paralyzed muscles is very slight, and confined to one or two muscles; the other, in which it is considerable, and affecting all, or nearly all, the muscles. The former of these is very apt to occur in those cases of hemiplegia, in which most of the paralyzed muscles are flaccid, one or two only being in a rigid condition; and, as illustrations of this form, I adduced cases in my last lecture, in which there was a greater or less impair-

ment of consciousness—where a clot had been formed with laceration of brain-substance, and where hemiplegia resulted, accompanied with a flaccid condition of all the muscles of the paralyzed arm and forearm, except the biceps; other cases will occur in which there will be slight rigidity, not only of the biceps but also of the triceps and the flexor of the fingers, and in a still less degree of the hamstring muscles and the biceps femoris. In many cases of this description, the rigidity of these muscles will not be apparent, unless they are thrown into action by exciting the antagonism. Thus, when you attempt to extend the forearm upon the arm, you will find that the biceps will become more or less stiff and rigid, and resist the extension; and so also will the triceps resist flexion; and in like manner, will extension of the fingers be resisted by the flexores digitorum. In general the actual assumption of the rigid state, or the tendency to assume it, is more marked in the flexor muscles than in the extensor, and in the upper than in the lower extremities. It likewise very rarely affects the muscles of the face, or any other paralyzed muscles than those of the limbs; but sometimes the muscles of mastication are involved, as the patient, although insensible, will resist powerfully any attempt to open the mouth.

“This condition, of slight and partial rigidity of muscles, is that of most frequent occurrence in the hemiplegia caused by an apoplectic clot. My idea as to its cause is, that it depends upon a state of irritation, propagated from torn brain to the point of implantation of the nerves of the affected muscles. But, you will ask, why is it that in some cases of clot the hemiplegia will be accompanied with complete relaxation of muscles, while in other cases the rigidity of which I have spoken exists? The answer to this question is as follows: in the cases where there is no rigidity the clot lies in the midst of softened brain, and has not in any degree encroached upon sound brain; but when rigidity exists the clot has extended beyond the bounds of the white softening, and has torn up to a greater or less extent sound brain. I leave this explanation to be tested by further experience and observation.” * * * *

“The prognosis in this form of hemiplegia is, on the whole, unfavorable: many of the cases die pretty soon after the attack, especially when the brain-lesion is complicated with a sanguineous apoplectic effusion. As a general rule, the larger the clot the shorter will be the duration of life. Patients will survive an attack of this kind from a few hours or two or three weeks. *Perfect* recovery is, I suspect, extremely rare; indeed I doubt that it ever occurs, excepting after inflammatory softening of very limited extent. In a few cases the state of rigidity gives place to that of relaxation, and the limbs remain relaxed and paralyzed for the remainder of life—the muscles becoming wasted to the last degree.”

“Many cases recover a slight amount of power in the paralyzed limbs, after the shock of the palsy-stroke has passed off. But this improvement is not progressive, and, after the lapse of time, the muscles waste, the rigidity remains or increases, and the limb is permanently more or less flexed. In short, the paralyzed limbs pass into the condition of what I would call *late rigidity*.”

(b) The paralysis *with late rigidity of the paralyzed muscles* may follow the hemiplegia with relaxed muscles, as well as that in which there is early rigidity. Dr. Todd's description of it is in connection with certain cases:—

“I have already described a well-marked example of this form of hemiplegia in the case of Shea (Case XXIX). In this man, who frequently presents himself at the hospital, you have a favorable opportunity of observing the peculiar condition of the paralyzed limbs. In the first place, you will perceive that the muscles are wasted; next, that the limb is in flexion, and sometimes almost in extreme flexion; the arm is strongly adducted to the side, the forearm bent upon the arm, and the fingers bent into the palm of the hand. In extreme cases this state of the fingers is often attended with great inconvenience, from the irritation to the skin of the palm caused by the growth of the nails. Lastly, the muscles are tense like cords.

“It is remarkable that in this, as in the palsy with early rigidity, the rigidity is most marked in the upper extremity, which is nearest the seat of the paralyzing lesion.

“In the history of Shea, you have that of nearly all the examples of this form

of hemiplegia in its highest degree. He, you remember, fell in an apoplectic fit, and came out of it with hemiplegia of his right side, with all the muscles relaxed except the biceps. He regained power slightly, but after some time the process of wasting and of contraction showed itself in the muscles, and now they are not only attenuated, but stiffened, as you may often see them in the dead body during the continuance of the rigor mortis. The attempt to extend the flexed joints is encountered by a powerful resistance, which can be only partially overcome, and always excites pain. In its lowest degree the rigidity in this form of hemiplegia is limited to the flexors of the fingers. There are few cases, indeed, of long-standing paralysis which do not exhibit some degree of flexion of the fingers, resembling very much that caused by rigor mortis in the dead body. In the lower extremity the stiffness is most in the hamstring muscles, and in those of the calf, and the tibialis posticus and the flexors of the toes, and the biceps femoris. In its lowest degree it will affect the flexors of the toes or the hamstring muscles, or both.

"As the process of contraction shows itself, in general, most in the upper extremity, so also it generally commences there; but now and then it will begin in the lower extremity: not unfrequently it will be met with in the upper extremity only.

"The view which I have always taken (and which many of you have heard me express in passing through the wards) of the manner in which this contraction is produced, is this: at the seat of the original lesion, whether it be simply a white softening, or an apoplectic clot, or a red softening, with more or less destruction of the brain-substance, there takes place an attempt at cicatrization, more or less perfect. Attendant on this, there is a gradual shrinking or contraction of the cerebral matter, which, acting on the neighboring healthy tissue, keeps up a slow and lingering irritation, which is propagated to the muscles and excites in them a corresponding gradual contraction, while at the same time their nutrition becomes seriously impaired by the want of proper exercise, and the general depressing influence of the lesion."

Dr. Todd adduces several beautiful cases to show that the occurrence of late muscular contraction is coincident with, and consequent upon, the contraction of the cerebral cicatrix by which the old apoplectic lesion is repaired, and the idea is very ingenious. Still we cannot admit its correctness. We hold that muscular rigidity comes on, sooner or later, in all cases of paralysis, and as a necessary consequence of the *paralysis*. If the rigidity comes on late, it is because the innate electrical action of the muscle has died out, this dying out being mainly owing to the failure in nutrition consequent upon the want of exercise. In this case, the contraction happens for the same reason as *rigor mortis*. Indeed, it is the anticipation of *rigor mortis*—a *rigor mortis in vitâ*. The shrinking of the cicatrix is only a coincidence, and not a cause. We hold, moreover, that the contraction which comes on at an early period is connected with *imperfect paralysis*. If the connection between the muscle and brain were completely severed, the muscle would remain relaxed until the innate electricity of the muscle had had time to die out, and this would not be until the nutrition of the muscle had failed more or less completely, *i. e.*, for several months, and possibly for years; but if the connection between the muscle and the brain was not completely severed, then the innate electricity of the muscle might be suspended in obedience to certain corresponding changes in the brain, and contraction might be the result. There is no necessity for irritation or inflammation to account for this contraction any more than for voluntary contraction, and Dr. Todd's pages afford no evidence to the contrary. That the paralysis is incomplete is admitted by Dr. Todd. We would not have ventured thus to criticise these points, if they had not been made to bear upon what we conceive to be an unsound rule of practice, for thus writes the author:—

"Looking over all the forms of hemiplegic paralysis which I have described, the antiphlogistic plan of treatment is strictly and fairly applicable only to that, in which the rigidity of the paralyzed muscles occurs early, and it must then be employed proportionately to the strength and age of the patient; but recourse to large bleedings is certainly not justifiable in any case with which I am ac-

quainted. By a large bleeding I mean such as exceeds ten or twelve ounces taken at once. The remedies to be used in such a case are mercury, free purging, and general or topical bleeding; but in the other forms of hemiplegia, no extensive antiphlogistic treatment should be adopted, and especially in the simple hemiplegia without loss of consciousness, which is purely an atropic disease. You should adjust the diet to the powers of the stomach; keep the patient in the horizontal position, as quiet as possible; and carefully guard against all causes of mental agitation or excitement."

Now we hold that the fact of muscular contraction never demands depletory measures, and that the contraction which occurs occasionally at the commencement of paralysis is no exception to this rule.

We have, however, small occasion to differ with Dr. Todd in any principle of treatment, and there are many points in which we cordially agree with him. We agree with him, for instance, in these remarks:—

"I have met with more than one instance of bad consequences following upon the removal of a patient in delirium, or just recovered from it prematurely. About two years ago a man was admitted here for epileptic delirium. Finding that his delirium was very noisy, and disturbed the other patients, I had him placed in a separate ward, where he recovered from his delirium. It was found necessary to move him up-stairs, and shortly afterwards he became delirious again, and died comatose.

"I am satisfied, from these and other cases, that there is nothing respecting which we ought to be more cautious than as to moving patients either in or just recovered from delirium; even to move them from one room to another on the same floor is dangerous, still more moving to any distance or to another floor. Let us take this case as a warning of the necessity for great caution and circumspection before we sanction the removal of a patient under such circumstances."

We agree with him in what he says about strychnia and electricity:—

"When the paralysis is the result of cerebral lesion, neither of these remedies promises much good, and they very frequently do harm. In the administration of strychnia, the greatest caution must be used; and if electricity be employed, it should be of feeble intensity.

"There is one curious fact with respect to the exhibition of strychnia in these cases, which were first noticed by Fonquier: it is, that this agent first shows its effects on the paralyzed limbs. This fact was some time ago brought forward by Dr. Hall, to show that in paralysis dependent on cerebral lesion, the irritability of the paralyzed muscles is augmented. Sufficient facts have, however, now been collected to prove that this statement is not correct—that the muscular irritability in such cases is not increased, though in certain instances the paralyzed muscles may be more excited by a galvanic stimulus than the sound ones. The reason why strychnia first manifests its action on the paralyzed limbs is, because it is attracted in greater quantity to the diseased side of the brain than to the healthy side, and it there excites an irritative condition, which is propagated to the paralyzed muscles; and this ought to point out that the use of strychnia in these cases is by no means devoid of danger, as it tends to produce at least an irritated, if not an inflammatory condition of brain around the seat of lesion."

We do not quite agree, however, in this last explanation. On the contrary, we should be disposed to think, that the strychnia acts first upon the paralyzed muscles, because they are paralyzed, and therefore weaker than they ought to be. We should think that the strychnia depresses the system generally, that the muscular twitches are the direct consequence of this depression, and that the twitches happen soonest in the paralyzed muscles, simply because these muscles are more depressed to begin with, and therefore more prone to yield to the depressing influence of the poison.

We also agree fully with Dr. Todd, in supposing exercise to be the great means of restoring tone to paralyzed muscles. He says:—

"You will often be consulted as to 'some expedient for promoting the restoration of the paralyzed limbs to their normal condition.' To this question, after having given a fair trial to the various means which have been proposed for this purpose, I must reply, that I know of nothing which more decidedly benefits

the paralyzed limbs than a regulated system of exercise ; active, when the patient is capable of it ; passive, if otherwise. As to the use of electricity, which is now much in vogue, or the employment of strychnia, which has been strongly recommended, I feel satisfied, as the result of a large experience, that the former requires to be used with much caution, and that the latter is very apt to do mischief, and never does good. I have seen cases in which, after the employment of electricity for some time, that agent has apparently brought on pain in the head, and has excited something like an inflammatory process in the brain. And so strychnia also will induce an analogous condition of brain, and will increase the rigidity of the paralysed muscles.

"Some good may occasionally be effected by the use of frictions, or cold water, or shampooing, all of which tend to improve the general nutrition of the nerves and muscles.

"In my next lecture, I propose to speak of that form of hemiplegia, which is associated with a more or less rigid condition of the paralyzed muscles."

Several lectures, based upon many admirable cases, are devoted to the illustration of these and other points in connection with cerebral paralysis ; and two or three lectures at the termination of the volume are given to other cases—as of spinal hemiplegia, of epileptic coma and lead palsy, of syphilitic disease of the dura-mater, of trismus, of chorea, and of local hysteria. The lecture on spinal hemiplegia is based upon a couple of most admirable cases.

Such is a very inadequate notice of a book, the perusal of which cannot fail to be attended with much pleasure and profit.

1. *A Treatise on Hooping-Cough, its complications, pathology, and terminations, with its Successful Treatment by a New Remedy.* By GEORGE D. GIBB, M.D. 1854. London, pp. 396, 12mo.
2. *English Statistics of Hooping-Cough.* By EDWARD SMITH, M.D., LL.B. (Lond.) *Medico-Chirurgical Transactions*, vol. xxxvii., 1854. London.

We may legitimately divide all books of value into two categories—viz., such as give, with more or less completeness, an account of that which is already known, and such as profess to convey new information combined with, and based upon some matter which is confessedly not new. The two works which we have placed at the head of these remarks are illustrations in point in the order in which we have placed them.

1. We have read Dr. Gibb's work with attention, and are impressed with the industry, impartiality, and modesty of its author. There is nothing in it which may fairly be said to be new—not even the so-called new remedy which we are sorry to see occupy so prominent a position upon the title-page ; but it is a faithful resumé, written in an intelligible and quiet style, of that which is already known, and as such we commend it to the attention of our readers.

As it is intended to be a compendious monograph upon the subject of hooping-cough, the author begins with a summary of the anatomy and physiology of the subject, which, for professional readers, might with great propriety have been omitted. He then proceeds to detail the history of the disease from the twelfth century downwards, which leads him into a short, but correct account of the statistics of the disease as occurring in this country and on the continents of Europe and America.

He adopts Dr. West's division of the stages of the disease : viz., catarrhal and spasmodic, and the period of decline, and describes the symptoms peculiar to each ; and before entering upon its terminations relates, in somewhat unnecessary detail, its complications with bronchitis, pneumonia and pleuritis, congestion of the brain, convulsions and hydrocephalus, sanguineous apoplexy, infantile remittent fever, diarrhoea and intestinal disorder, softening and inflammation of the stomach, general dropsy, the exanthemata, tuberculosis, pregnancy, hysteria, and "other diseases." We think more favorably of the succeeding chapters, which treat of the terminations and the pathology of hooping-cough ; and since the author professes to promulge a new remedy, we think it better to let him give his views of the pathology of the disease in his own words :—

"1. Toxication of the blood, produced by some unknown specific influence,

peculiar in its nature, not unlike that of measles and scarlet fever, in the circumstance of its affecting persons once during their lives, generally children under five years of age.

"2. Irritation of the terminal loops of the nerves supplying the mucous membrane of the bronchial tubes, producing vascularity and consequent secretion of a greater or less quantity of mucus.

"3. Reflex action of the pneumogastric and respiratory nerves, followed by congestion of the vessels of the medulla oblongata and pia mater surrounding it, and also at the origins of its nerves.

"4. Spasmodic contraction of the circular and longitudinal muscular fibres of the bronchi, consequent upon the foregoing, manifesting itself in the series of sudden expiratory efforts, and the well-known sonorous back draught or hoop.

"5. The immediate result of which is frequent and rapid respiration to compensate for its temporary absence, producing a highly oxygenated or super-oxygenated state of the blood, with a tendency to the formation of fibrinous concretions in the heart during the spasms.

"6. As a secondary result of the spasmodic muscular contraction of the bronchi, we have a temporary hypertrophy of the muscular fibres thus acted upon, which disappears again after the cure is established.

"7. The disease is at first irritative and catarrhal, and afterwards nervous and spasmodic, both due to the unknown peculiar exciting cause, present in the blood.

"8. It manifests the peculiarity of running a special course, through its different stages, three in number, but which may be cut short, or greatly diminished by medicinal treatment."

The topography and causes of the disease are next discussed, with its diagnosis and prognosis, and a multitude of authors are quoted, on whom Dr. Gibb very wisely leaves the responsibility of their various opinions, without hazarding any statement of his own. The treatment of the disease occupies four chapters, of one hundred pages, and of its complications one chapter; and almost every remedy which has at any time been introduced into the science of medicine for the cure of whooping-cough, is referred to and discussed on the responsibility for the most part of their respective proposers. The treatment adopted by Dr. Gibb is that of nitric acid, as employed by Dr. Arnoldi, and the following are his formulæ.

R Acid. Nitrici dil. ℥xij;
Tinct. Cardamomi co. ℥iij;
Syrupi Symplicis ℥iijss;
Aquæ ℥j. M.

Vel,

R Acid. Nitrici dil. ℥xij;
Tinct. Gentianæ comp. ℥iss;
Mellis optimi ℥ij;
Syrupi Simplicis ℥iss;
Aquæ ℥j. M.

Fiat mistura. Capiat cochleare medium quaque horâ, vel secunda quaque horâ.

"For a very young infant, the dose may not exceed a teaspoonful every two hours.

"For children from two to five years of age, the quantity of the dilute acid may be increased to fifteen drachms for an eight-ounce mixture, well sweetened with the honey or syrup, and given in the dose of from two to three drachms every hour, or every second hour, during the daytime particularly.

R Acid. Nitrici dil. ℥xv;
Tinct. Cardamomi comp. ℥v;
Syrupi Simplicis ℥ivss;
Aquæ ℥j. M. Ft. Mist.

"If the patient be an adult, or above ten years of age, half an ounce of this mixture may be taken every hour. The enlightened practitioner will use his own judgment as to the proper dose, according to age and circumstances."

In reference to the mode of action of this remedy the author states, after referring to Dr. Todd's desideratum of a material which should neutralize the poison of the disease, "It would be presumption in me to say that this substance has been discovered; but in its effects upon the disease, nitric acid, in whatever manner administered, not only arrests the paroxysms and removes the hoop, but shortens the disease almost as effectually as quinia does intermittent fever. It not only produces a powerful antispasmodic effect, but an equally tonic influence, and supplies to the blood an element—nitrogen—which removes or neutralizes the excess of fibrine existing in that fluid—one of the dangerous elements of the disease—and so destroys the poisonous principle combined with it, which is the primary cause of the affection."

We do not doubt that nitric acid has done service in the cases narrated by the author, as have done the thousand-and-one specifics which heretofore have been extolled on equal authority; neither do we doubt that, like its thousand-and-one companions it will ultimately disappoint the sanguine practitioner, and fall into disuse.

Dr. Gibb is capable of yet better things, and we hope to meet him again.

2. Dr. Smith's paper is, as its title indicates, wholly devoted to statistics, and it was read before the Royal Medical and Chirurgical Society. It proposes to be a continuation of a series of statistical papers which were published by him in the *Medical Times* in 1851, and is based exclusively upon the returns of the Registrar-General. He has for the most part restricted his attention to the returns for London for the seven years—1847 to 1853 inclusive,—but occasionally he has referred to the last published returns of the mortality from this disease for the whole of England and Wales, and from the whole he has compiled three diagrams, which exhibit at a glance the relations between temperature, hooping-cough, and other diseases.

The subject is discussed under the four heads of frequency, influence of age, of sex, and of season.

In reference to *frequency*, he has ascertained that in the London district it occupies the 7th rank in the 99 diseases under which the Registrar-General has arranged the total mortality. "The only affections of the chest (a class of affections with which it may be associated), which have a higher mortality, are phthisis, pneumonia, and bronchitis, in their order; of members of the zymotic class (with which it is also connected) only typhus and scarlatina exceed it; and lastly, of diseases of the nervous system (with which it again has a correspondence) convulsions alone have a higher mortality." Hydrocephalus, apoplexy, measles, and small-pox, each in its proper order, were less fatal than hooping-cough. This was varied somewhat in the great registration divisions of England, so that in the Eastern division there were only three diseases more mortal than hooping-cough—viz., phthisis, pneumonia, and typhus. In the York and the South-Eastern divisions there were respectively only 5 and 6, whilst in the South-Western there were 16 more fatal diseases. The ratio to the population was, for all England as 1 to 45·7; and it varied from 1 to 28 in the Eastern, to 1 to 94·8 in the South-Western division. Of the seven years (1847 to 1853) the mortality was the greatest in 1850 (50 per week) and the least in 1844 (25 per week), and in this there was no correspondence with the amount of the general mortality, or the mortality from diseases said to be allied to hooping-cough.

As it respects *age* he found it to be the most mortal of all diseases in persons under one year, except convulsions, pneumonia, and diarrhœa; and since these terms comprehend many rather than single diseases, he affirms that at that period of life it kills more than any other disease. The ratio of the dead, from this disease, to the living at that period is the fearful one of 1 to 123. He found that more than two-fifths of the whole deaths occurred under æt. 1, more than two-thirds under æt. 2, and nineteen-twentieths under æt. 5.

The influence of *sex* is very apparent, since the mortality is greater for the whole of life, and for each year of life in the female than in the male sex, and that preference *increases as life advances*. "Thus, whilst under æt. 1 the excess in the ratio of mortality amongst females is one-sixth, it is less than one-third in the 5th year of existence and was reduced to one-fourth in the 2d year, and one-fifth in

the succeeding intervals." He is disposed to attribute this to "a predisposition arising from organization, since we may assume that the peculiarities of the female organization are not so distinguishably developed within the first year, as in subsequent periods of life." In discussing the question of the higher sensibility and delicacy of organization as a predisposing cause in the female sex, he is met by the difficulty that convulsions, which are more clearly a disease of the nervous system, are more mortal in the male sex, and seeks somewhat speciously to overcome it by stating that a disease may be more "prevalent" in one sex, and more "fatal" in the other sex.

The greater part of the essay is occupied by a consideration of the influence of season, and it is in this that we consider its chief merit to lie.

On a review of the average temperature and mortality from hooping-cough of the seven years, 1847 to 1853, he comes to the conclusion that "considering the year as a whole, we do not trace the connection between *excess* of cold and *excess* of mortality;" but that the mortality essentially attends upon temperature is made clear by reference to these points in each quarter. Thus, he found that "the greatest mortality occurred five times in the first, and once in the fourth quarter, and the lowest mortality five times in the third, and twice in the fourth quarter." And in reference to the summer and winter half-years he has ascertained that "the greatest mortality was five times in the winter, both of the same and of consecutive years, and the least mortality five times in the summer."

In order to develop this fact more completely, he has prepared a table and diagrams, which show "the mean weekly average of monthly mortality and temperature of London" for the years 1847 to 1853, and has thus reduced the periods within limits so narrow that the effect can scarcely escape its connection with the cause. In this way he finds that—

"The mortality and temperature are in the inverse ratio to each other, and that the former proceeds in waves from about August, when it is at its minimum, to about April, when it is at its maximum, returning to its minimum about the following August, and thus continuing in even waves of increase and decrease, with remarkable regularity, from year to year. The maximum and minimum months occasionally vary. Thus, the former, instead of being April, may be March, and in one instance, it was the preceding December; whilst the latter, instead of being August, may be July or September, and in one instance, was even November. This degree of variation, however, in no sense invalidates the rule which has just been laid down. In reference to temperature, the diagram proves that the month of its maximum is not that of the minimum of mortality, but the one which immediately precedes it; and so, in like manner, with the minimum of temperature and the maximum of mortality. This rule is also, like other rules, liable to exception; but when such exceptions occur, it will usually be found that the temperature, or the mortality, has remained at nearly the same point during two or three months. In such instances, it manifestly gives a false importance to one particular month over its neighbor, if it be denominated the minimum month, because it had one, two, or three degrees less temperature. Such is the relation between mortality and temperature; and after making every allowance for exceptional cases, we cannot but be struck with the regular and almost constant opposition upon the diagram of the two lines of temperature and mortality."

He also observed the curious fact that—

"The waves of the greatest intensity in the series of years referred to (1847 to 1853), occurred at intervals of two years, and were succeeded by a marked rapid and extreme subsidence in mortality during the summer and early autumn months, and did not again approach to the same intensity during the succeeding years. Thus, in 1849, 1851, and 1853, the highest average weekly mortality in one month, was 76.6, 74.4, and 74.5, respectively, whilst in the alternate years, 1848, 1850, and 1852, the like highest average was only 47.6, 51.2, and 52. In the latter part of the former years, however, there was not that uniformity of opposition of the lines of mortality and temperature which constitutes the rule, but, on the contrary, a disposition was manifested to pursue a parallel course.

These facts may tend to prove, that a severe outbreak of the disease is followed by diminished intensity of mortality, and that, to a certain degree, in spite of the action of causes which, under other circumstances, would have heightened the mortality." "At the close of each alternate year of accession, the intensity of mortality seemed rather to move in advance than in the rear of the subsidence of the temperature, in opposition to the fact just noticed in relation to the years of intensity; for, in November of the years 1848, 1850, and 1852, the mortality suddenly increased, whilst the temperature yet remained at a tolerable height, viz., 45° ." The line separating high and low mortality was between 45° and 48° .

Now comes the most laborious part of the investigation. An exception might readily be taken to the foregoing deductions, on the ground that the increase or decrease of the mortality from hooping-cough might correspond, more or less minutely, with the general mortality, or the mortality from the allied pectoral, zymotic, and nervous diseases; and in order to meet it he has computed the mean weekly average of monthly mortality, from all these causes, for the years above mentioned; and then in order to deduce a correct average he has condensed the returns of all these years into one, which thus shows the true average weekly temperature, and mortality from hooping-cough and bronchitis. These are given in tables and diagrams, which have the farther merit of being applicable to many other investigations.

In reference to the *general mortality*—"It is quite clear that the general direction of this line is directly opposed to that of temperature—the highest mortality occurring at the season of lowest temperature, or winter, and the lowest mortality at the period of highest temperature, or summer. The highest mortality is observed about January, but varying from December to March, and in 1852, was so late as May, whilst the lowest mortality occurs almost invariably in June and July. In the cholera year of 1849, and in that alone, the lowest mortality was observed so late as November—that is, after the epidemic had subsided—and may naturally be attributed to the lack of subjects of fatal disease. The most healthy period of the year is from April to November, except in such years as experience the recurrence of fatal epidemic diseases. It should also be remarked, that, for the most part, the most fatal seasons in a series of years, are such as have the lowest temperature, as was the case in the winters of 1847-8 and 1852-3; whilst, on the other hand, the periods which experienced the lowest mortality in a series of years, as 1848 and 1850, were marked with the highest degree of temperature. The months of highest temperature and lowest mortality are not usually the same, but, as in 1849, the latter is a month later than the former. Thus it was particularly the case when the temperature had somewhat suddenly increased; for when the temperature throughout the winter had remained somewhat high and stationary for some months, as in 1850-1, or when it had increased considerably in March and April, as in 1847, the monthly lowest mortality was in advance of that of highest temperature. In the latter case, it would seem that the long-continued high temperature became, beyond a certain doubt, a cause of mortality. On contrasting this statement respecting the general mortality with that of hooping-cough, several disparities will be observed sufficient to show that the cause of mortality from the latter disease is not identical with that of the general mortality."

"In the *zymotic class* the lowest mortality is observed to correspond with the low temperature, and therefore with the beginning and the close of the year; whilst its highest mortality is observed in August or September, and therefore corresponds with the period of considerable, but not of the highest temperature. In no instance does its acme precede that of temperature, but it either corresponds with it, as in the cholera epidemic of 1849, or, as is more customary, immediately succeeds it. Its progress appears to be in cycles, having its origin or lowest point immediately after a severe outbreak of the disease, and thence remaining stationary for a period, but ultimately increasing in mortality by slow increments, until it again attains its maximum. There has been, as yet, no such yearly zymotic mortality since 1849, as was observed in the years immediately preceding 1849, but there has been a gradual increment since 1850. In all

these various points, this great class differs from hooping-cough, and in its essential character is directly opposed to it. Indeed, there is not an instance during the seven years in which the lines of alternate increase and decrease of hooping-cough are not directly opposed to those of the great zymotic class; whilst, on the contrary, in almost all cases the zymotic lines and the lines of temperature tend to the same direction. This is a strong argument against the essential affinity between mortal cases of hooping-cough and the class under consideration."

"Directly opposed to the zymotic class is that of *pectoral affections*, for the lines of this class are in opposed waves to that of temperature, and in marked correspondence with those of hooping-cough. The highest point of mortality is almost invariably met with in January, and corresponds accurately with that of the lowest temperature. In this latter respect the pectoral class differs from others, hooping-cough included, for its mortality keeps nearly even pace with the temperature. This is very strikingly manifested upon the diagram. Its lowest mortality, too, is observed at the very months which have the highest temperature of the season, and thence remains nearly stationary during two or more months, or has a gradual tendency to increase. The months intervening between April and November, or December, are the least infected with this class of diseases, and in this respect, this class corresponds with the general mortality. The only noticeable distinction to be made between the lines of mortality from hooping-cough and chest diseases is, that whilst both invariably take the like direction, the former follows the latter in descending, and precedes the latter in ascending. The great similarity between hooping-cough and chest diseases, contrasted with the dissimilarity between the former and zymotic affections, cannot fail to induce us to regard them as most closely allied, and may almost suffice to induce us to inquire if they are not, in their mortality, the same disease."

"The third great class of diseases, or the *nervous*, offers but unsatisfactory evidences of its affinity to hooping-cough, and that, perhaps, from the fact just alluded to, viz., that whatever hooping-cough may be, it is not usually mortal. The diagram shows a remarkable uniformity and narrowness of limit in the range of this class of disease through each year, and through a series of years. The line scarcely, if ever, has a greater range than 50 cases, and throughout the whole year does not extend through one-half that amount. It can, therefore, scarcely be influenced by the change of seasons, and, consequently, can offer but little affinity to hooping-cough, the general mortality, zymotic, or chest affections. The highest point, little varied as that may be, appears to be during the cold season, and its lowest during the middle months of the year."

On a review of the investigations as to relationship between the mortality from hooping-cough and that from the class of diseases just mentioned, he affirms:—

"That the lines of hooping-cough do not precisely correspond with those of the general mortality; that they are directly opposed to those of the zymotic class; that they are greatly in accord with those of chest diseases; and, lastly, that they have but little evident relation with those of nervous diseases. Thus we infer, that hooping-cough is a disease apart from those affections, and that any deductions made from its returns, cannot be weakened by any supposed resemblance between it and these classes of diseases. Further, we may affirm that mortal cases of hooping-cough disprove any alliance between it and zymotic disease, leave it in doubt in reference to nervous diseases, and offer much support to an alliance with chest affections."

We have not space to enter into an analysis of the diagram exhibiting the weekly temperature and mortality of the seven years, condensed into one, but we advise our readers to procure the "Transactions" and study the diagrams for themselves. The author, throughout the essay, has carefully discriminated between mere numbers of deaths, and the true ratio which they bear to the population living at the various ages alluded to, and between the non-mortal tendency of hooping-cough itself, and the fatality of its complications, and concludes that we are still perfectly ignorant of the essential nature of the disease. He also shows the advantage which would result from a collection of the vital statistics of disease, with the same degree of correctness, even, as that which has been attained in reference to mortality returns.

A Manual of Pathological Anatomy. By C. HANDFIELD JONES, M.B., F.R.S., Fellow of the Royal College of Physicians, Assistant-Physician to, and Lecturer on Physiology at, St. Mary's Hospital; and EDWARD H. SIEVEKING, M.D., Fellow of the Royal College of Physicians, Assistant-Physician to, and Lecturer on Materia Medica at, St. Mary's Hospital.

The increasing attention to pathological studies, which is unquestionably the leading characteristic of the English school of medicine at the present time, has long rendered a Manual of Pathology an urgent want, and we are not a little glad, therefore, to have this want supplied, and to have it supplied as it is in the present instance. We are satisfied, also, that this feeling will be general, for the two names which are on the title-page, are of themselves a guarantee that the work in question will contain a due exposition of all that is taught in the foreign as well as in the British schools of Pathology,—for Dr. Sieveking is already well known as the translator of the invaluable works of Rokitsansky; and Dr. Handfield Jones by several excellent and laborious investigations on various kindred subjects.

In this work, the author tells us that they “have desired to lay before their professional brethren an outline of what is known in the domain of Pathological Anatomy.” “They have sought to place before the reader a summary of ascertained facts, together with the opinions of the most eminent pathologists of this and other countries.” We have no hesitation in saying that this object has been most satisfactorily attained, and the reader will quickly perceive that the best fruits have been selected from the harvest gathered by other laborers in this wide and interesting field. Original research, and careful investigation is also apparent in every chapter, and thus the work is impressed with a far higher character than might be considered essential to a manual of this description.

In a work of this kind, where everything is touched upon, it is impossible to do more than give a few hints and illustrations as to the character of the contents. We begin at once, therefore, with a quotation in illustration of the *tone* of the work:—

“Derangements of nutrition and secretion certainly constitute primary elements of disease. Of the former, we shall speak particularly when we describe the various degenerations that affect the different organs. The latter will be considered in detail, under the head of the several secreting organs and their respective products. We shall now only offer a few general remarks on those derangements and their effects. Nutrition and secretion are evidently in great measure processes of identical nature. The chief difference is, that in the latter a considerable part of the nutrient supply is conveyed out of the organ by tubular channels, more or less altered from the form in which it exuded from the blood-vessels. The processes of secretion in the different instances presented by the system are not all exactly alike, the pulmonary secretion, and the urinary in part, seem to pre-exist ready-formed in the blood; the biliary and the gastric, as well as the seminal, must be formed in their respective glands. It seems probable, however, that in all cases an appropriate blastema is requisite for the due performance of the function of the organ, and that this contains either the secretion ready-formed, or principles which are in course of change, or ready to change into it. Part of the secreting process is therefore, accomplished in the blood, part in the several glandular organs; and the proportion which these bear to each other varies in different instances, and, perhaps, to some extent in the same. In nutrition, there seems scarce any reason to believe that the tissues produce any very considerable change on the blastema supplied to them, the sarcons elements of muscle are but slight modifications of albumen, the bones receive phosphate of lime ready-formed in the blood, the nervous matter is chiefly a compound of oil and albumen, the various pigments are probably modifications of that of the blood-globules; and even those which depart most widely from the composition of the blood, the various gelatine-yielding tissues, may fairly be regarded as having no very distant connection with the proteine compounds. Now it is a point of prime importance to remark, that in both the

nutritive and secretive processes, the failure or imperfect performance of the function in any one instance produces an injurious effect on the circulating blood. For the nutrition of a part does not imply merely the withdrawing of a certain amount of *liq. sanguinis*, and its appropriation to that part, but the separation of a fluid differing *qualitatively* more or less from the general current, in consequence of which, certain elements are retained in, and become, therefore, more abundant in the blood.

“Now, if the proper selection of material does not take place in the maintenance and repair of different tissues, it is manifest that the composition of the blood must be altered. Again, nutrition involves the decay of tissues, and the reabsorption into the blood of their effete parts; from which it is clear that, on the due performance of what Dr. Prout calls secondary destructive assimilation, the healthy condition of the blood is in part dependent. No doubt there are physiological limits within which the nutrition of different parts may vary; but if these are exceeded, disorder, first of the blood, and, subsequently, of other parts, must ensue. It is difficult to point out positive examples of disease arising from such causes, but it seems right to refer to them, as they may probably lie at the bottom of many obscure and ill-defined morbid states. With respect to the secretive processes, we have familiar instances of their disorder producing injurious effects on the blood, and through it upon other parts. If the liver become sluggish in its action, and bile is not properly excreted, the countenance betrays by its tinge the unnatural state of the blood, and the loss of appetite and headache testify that the stomach and the brain are secondarily affected. If the texture of the kidney be spoiled, and the secretion of urine in consequence be seriously interfered with, the urine is retained in the blood, and this fluid becomes thus so altered in its composition, that the red globules are no longer properly developed, and the patient presents a sallow, anæmic aspect, while at the same time inflammations are exceedingly apt to arise in various parts, owing to the disordered nutrition induced by the unhealthy blood. If the secretion of a gland be greatly increased, though of perfectly natural composition in itself, this increased outflow becomes a drain upon the system, and thus a cause of debility. Diabetes may be referred to in illustration of this, as although an unnatural substance, sugar is added to the urine, yet its own composition is not materially altered. Another very striking instance is afforded by cases of *asthenia lactantium*, the continued drain from the mammary glands exhausting the frame and all the vital energies in a fearful manner. Secretions excessive in quantity, and more or less unnatural, also produce great debility; of this we have frequent examples in profuse diarrhœa or leucorrhœa. The material of these fluids is of course so much withdrawn from the circulation.

“Unnatural secretions often produce irritation and disturbance of parts with which they come into contact. Thus acrid bile produces severe diarrhœa, diarrhœal and leucorrhœal discharges often excoriate the integument around their respective outlets, highly acid urine causes a sensation of scalding in the urethra, or even may give rise to attacks resembling nephritic colic. Deficient quantity and disordered quality of a secretion often go together; thus scanty urine is generally morbid, in some other respect; the opposite condition, however, is quite as frequent, and the secretion, though plentiful, is very unnatural. Of the latter condition we have examples in debilitated persons who pass large quantities of pale, alkaline urine, containing triple phosphate. The former state is constantly observed in the commencement of various febrile affections. The nervous system has a considerable influence over the various secretions. Great agitation has been known to cause a mother's milk to assume a poisonous quality, or such, at least, as to occasion in a few minutes the death of the infant. A similar cause has produced jaundice rapidly in some persons, and in others, a bilious diarrhœa. After an hysterical fit, a large flow of pale, almost aqueous, urine is passed. A flow of tears is the natural effect of the passion of grief, and a flow of saliva of the expectation of a meal. Appetite is immediately destroyed, *i. e.* the secretion of gastric juice arrested, by sudden distressing intelligence. The lessons which these facts convey, can scarcely be too much appreciated. They show us that we must never forget the wonderful but intimate

connection that exists between our material and immaterial part, and that it is fruitless to strive against the incessant influence of a down-weighed or wounded spirits by doses of drugs. These cannot 'cleanse the stuff'd bosom of that perilous stuff which weighs upon the heart.' Instances are occasionally met with, in which some secretion is manifestly unnatural, and yet there is no constitutional disturbance. It appears as if some morbid matter were carried off by this channel, the removal of which left the system in health. Of this kind are cases of fetid secretion from the feet, some of oxalate of lime in the urine, and perhaps the naturally foul breath which is habitual to some persons. It is very probable that several disorders, among which may be particularly mentioned gout and rheumatism, essentially depend, partly on a mal-performance of that part of the function of secretion which takes place in the blood, and partly upon the defective elimination; so that various effete matters, not undergoing those oxidating changes which they normally should, and being instead, partly converted into other more noxious and unnatural principles, circulate in the blood for some time, producing general uneasiness and mal-ease, and, sooner or later, break out in an eruption of morbid matter, by the skin, or some other emunctory. The gouty paroxysm, with its foregoing ill-health, is the *παράδειγμα* of this condition. It is also illustrated in rheumatism, and more or less in other morbid states of the system, to which the appropriate name of excrementitious plethora has been applied. Dr. Williams observes, that he has often found purpura connected with hepatic congestion and imperfect excretion of bile, and most effectually removed by remedies which promote the restoration of the proper secretion. It is not unfrequently seen that the sudden arrest of a secretion, though it be a morbid one, which has continued long, and produced a considerable drain on the system, is attended with serious, nay, even fatal effects. These probably depend on the establishment of a condition of plethora, not indeed, such as under ordinary circumstances would deserve the name, but which is felt as such by the debilitated, and perhaps sensitive, system. When this state exists, local congestions are very apt to occur, and may end in fatal extravasation of blood in the brain, if that be the part affected. If the natural secretion of a gland be in any way greatly diminished, a state of congestion of the organ is very apt to follow; the converse occurrence also is often observed, and it is not by any means always to be discerned clearly which of the two is to be regarded as the cause, and which as the effect. The temperature of a part whose natural secretion is arrested, is almost always higher than natural. No more marked instance can be mentioned of this than the skin in many fevers. Remedial means, which diminish the quantity of blood in a congested part, often restore or increase the secretion which had been interrupted; and, conformably to this, we often observe in cases of profuse abnormal secretion, that the surface from which the flux takes place, instead of being red with blood, is unnaturally pale; the contents of the vessels seem to be drained away as fast as they arrive; so that one is almost reminded of the old theory of exhalent arteries with open mouths."

The chapter on the "morbid states of the blood" is undoubtedly one of the best in the volume, and contains a most complete *résumé* of the various observations and theories connected with this vast and interesting subject. The views, also, of all the leading modern authorities on the subject of inflammation, and its allied processes, are critically examined with an ability highly creditable to Mr. Handfield Jones, and the general account given very fairly represents the present state of our knowledge of these subjects.

The description of new formations and tumors, in chapter iv., is a judicious selection from the highest authorities on these subjects.

The pathological anatomy of the nervous system; the organs of circulation, and organs of respiration—is from the pen of Dr. Sieveking, and the excellent chapters on this subject not only bear the evidence of extensive research, but like the other portions written by the same author, are accompanied by numerous references, in foot-notes, to the works from which the subject-matter of the text is taken. In this respect they contrast with the sections written by Dr. H. Jones, to whom we would venture to suggest not only the propriety, but the necessity of following the plan of his colleague even to a greater extent. When the book shall reach its second edition, an event which may confidently be an-

anticipated at no distant period. The following observations on the still obscure subject of the acute diseases affecting the arterial system, may be selected in illustration of the preceding remarks:—

“ We have seen that it is a subject of debate whether the middle and lining coats of the arteries are subject to inflammation; as they possess no blood-vessels of their own, we can scarcely assume them to present symptoms of the primary phenomena of inflammation; but that they may be secondarily involved in inflammatory affections proceeding from the cellular sheath cannot be doubted. A most interesting case of acute arteritis in a previously healthy individual, a gentleman, aged twenty-nine, is recorded by Dr. Romberg,* where sudden pain manifested itself in the right femoral artery, affecting the distribution of the artery in the limb, then, mounting up to the aorta, passed to the left iliac and its branches. Endocarditis followed, and inflammation of the arteries in the left upper extremity; the entire illness lasted from the 20th October, 1844, to the 5th December of the same year. The post-mortem was performed by Professor Froriep thirty hours after death, and the following appearances were found in the arteries: A pale red, firm clot, was discovered in the abdominal aorta close to its division; it blocked up the artery, and adhered closely to its lining membrane, which was smooth, and not reddened. This coagulum extended into the two iliac arteries, gradually became thinner, and terminated in a point. At the point at which the left external iliac is given off, there was an equally firm but lighter colored exudation. The left external iliac as far as Poupart's ligament, was filled up with a thinner coagulum containing much cruor; it could be easily detached from the lining membrane, which was thickened, reddened and friable, and could be easily detached from the fibrous coat. The middle and external coats were also thicker and more friable than in the normal state. Between the membranes there was an exudation of lymph, which was also distinctly perceptible in the cellular tissue surrounding the arteries. The latter was particularly inflamed under Poupart's ligament, and the neighboring lymphatic glands were tumefied and reddened. The crural artery contained a firm coagulum at the point at which the profunda is given off, which could only be detached with difficulty from the dark red lining membrane, and which extended into the profunda. Further on the crural artery was filled with a grumous coagulum, and the lining membrane was villous, rough, and much reddened. Then came a free spot, but at the part where it passes through the abductor, it was again closed by a firm coagulum, and the corresponding lining membrane was much reddened, softened, and pulpy. The tissues here were in a state of gangrene, the right internal iliac was unaffected. A firm, pale clot, strongly adhering to the lining coat, was discovered in the external iliac close to the point at which it is given off by the common iliac artery. The crural artery of the same side was narrow and contracted; the lining membrane thrown into folds, containing a solid plug at the site of the profunda; the lining and other membranes being much reddened and thickened. A similar coagulum was found in the left brachial artery at its division, extending into the radial and ulnar. The heart was hypertrophic, and a roundish excrescence was found attached to the mitral valve, which was proved by Professor Müller to consist of fibroid tissue, and to be subjacent to the endocardium. The same author confirmed the fact that a thin layer of plastic exudation matter was found on the arterial coagula, which at many points also invested the lining membrane. For further particulars, and for the author's views on the case, we must refer the reader to Dr. Romberg's work. We have extracted so much of it as refers to the subject under consideration, and because it offers a combination of all those phenomena which writers attribute to acute arteritis, and which are found in the inflammations of other parts of the system as the result of a peculiar derangement of the circulating fluid. In this respect the case quoted might form an appropriate text for the development of the whole theory of the phlogistic process. Bizot† describes as the result of acute inflammation of the arteries, an albuminous exudation of greater or less thickness, of the consistency of jelly, transparent,

* Manual of Nervous Diseases, Sydenham Society's Edition, vol. ii. p. 238. Since the above was written, a very similar case has occurred under the care of Dr. Sibson, at St. Mary's Hospital.

† Mémoires de la Société d'Observation, vol. i. p. 311.

smooth, sometimes rose-colored, at others colorless, covering the lining membrane. It is occasionally so transparent as to escape attention unless very carefully examined. It occurs in patches, solitary or numerous, and diminishes the calibre of the vessel; in one case Bizot saw it entirely plugging up the anterior tibial artery. In the aorta this exudation is formed mostly at the orifice of the arteries arising from the arch, at the mouth of the celiac, mesenteric, and renal arteries, and at the posterior surface, so as to block up the mouths of the intercostal arteries. An instance of acute inflammation of the aorta is recorded by Mr. Hodgson;* it is to this effect: A man was seized with violent pneumonia which proved fatal in five days; the cadaveric inspection exhibited all the thoracic viscera in the highest degree of acute inflammation; the aorta was also involved; its internal coat being of a deep red color, and a considerable portion of lymph being effused into the cavity. The effused lymph was very intimately connected with the internal coat of the vessel, and a plug of it had extended into the left subclavian artery, and nearly obliterated the cavity of that vessel. In reference to this subject some experiments performed by Gendrin† are of considerable importance in demonstrating the capability of the coats of the artery giving rise to inflammatory exudation in the strict sense of the word. He found that on injecting an irritant substance into a portion of an artery included between two ligatures, and deprived of blood, a deposit of coagulable lymph took place, which arrested the internal coat and at last formed a plug filling up the channel. The lining membrane at first was only slightly discolored, and through it a network of injected capillaries might be distinguished on the adherent surface of this tunic to the middle coat. When the inflammation has advanced this was no longer seen, the external coat having become pulpy, rugous, and dull. The suppuration that followed did always coincide with the ulceration of the inner coat; the pus, however, was not necessarily deposited in the vessel, but infiltrated into the cellular sheath, forming small abscesses. We may reasonably conclude that in arteritis the morbid products are derived from the vasa vasorum as well as from the contained blood. To sum up: The symptoms of acute inflammation of the arteries are more or less extensive, reddening, softening, thickening, and detachment of the lining coat, which exhibits an opaque, plicated condition; the middle coat becomes hypertrophied and friable, and in the external coat we find distinct signs of congestion and exudation. Within the vessel a coagulation of fibrine and the deposit of coagulable lymph from the blood is seen, and as secondary effects we have to deal with ulceration, laceration of the coats, hemorrhage, and gangrene of the distal parts of the system.

“From the time of J. P. Frank,‡ who first drew attention to the subject of arterial inflammation, to the most recent periods, various pathological conditions have been attributed to it; the acute forms have been repeatedly asserted to be the cause of trismus neonatorum, a disease which at present is one of very rare occurrence among ourselves. Dr. West denies this cause, but Dr. Collis,§ and recently Dr. Schöller,|| satisfied themselves of its real existence. The latter found inflammation of the umbilical arteries in fifteen out of eighteen cases of trismus neonatorum. There was tumefaction of the umbilicus, reddening and congestion on the external surface; the channel contained pus, and the lining membrane was eroded and invested with an albuminous exudation. Dr. Schöller has carefully examined these parts in all other new-born children who died shortly after birth, and has never succeeded in discovering similar lesions. It does not appear that traumatic tetanus in the adult, to which we may compare trismus neonatorum, is accompanied by similar lesions.

“The formation of a coagulum in the artery is a well-known physiological effect of the laceration by mechanical or other means, of the lining membrane, and the atrophy or gangrene of the part nourished by the artery is an illustration of the effects following similar obliteration of the channel from disease. We have

* On the Arteries, p. 5.

† Histoire Anatomique des Inflammations, vol. ii. p. 13.

‡ De curandis Hominum Morbis, vol. ii. p. 363.

§ Dublin Hospital Reports, vol. i. p. 285.

|| Neue Zeitschrift für Geburtskunde, herausgegeben von Busch, d'Outrepoint und Ritgen, vol. v. p. 477.

alluded to the cerebral affections resulting from an arrest in the arterial circulation; senile gangrene is another morbid condition which has been ascribed, by Dupuytren and Cruveilhier, to arteritis. In this there is a marked distinction between inflammation of the two sets of vessels; that phlebitis induces secondary deposits and œdema, while these occurrences are not met with in arteritis. It is even doubted whether the latter ever gives rise to suppuration, but independently of the cases of suppuration in the umbilical artery quoted from Dr. Schöller, Andral, and Hodgson's* authority† determine the question affirmatively, for these authors state that actual idiopathic suppuration does occur in the artery.

“The spontaneous coagulation of the blood in the arteries is not, however, the result of inflammatory action only. It may occur in consequence of a low ataxic condition, which does not permit the vital powers to resist the chemical tendencies, that normally ought not to come into play until after death. This spontaneous coagulation is especially met with in the pulmonary arteries, where the occurrence of the inflammatory symptom has, as yet, not been met with. Mr. Paget,‡ in describing a case of the kind says, that nearly all the branches beyond the primary divisions of the pulmonary artery contained clots of blood, which from a comparison with those found in tied arteries, he judged to be from three to ten days old. The clots did not commonly extend continuously from any large branch of the pulmonary artery into many of its successively subordinate divisions, no branch of the pulmonary artery less than half a line in diameter appeared to contain any of these clots, and the pulmonary veins were healthy and empty. The case under consideration proves that a large portion of the pulmonary circulation may be arrested for a considerable period without immediate danger to life, a circumstance explained by Mr. Paget by assuming a retardation of the circulation in the systemic vessels in order to allow the quantity traversing them in a given time to be equal to the reduced quantity which in the same time traverses the lungs. In order to keep up the necessary balance, the systemic circulation is as much less rapid than the remaining pulmonary circulation is more rapid, than before the obstruction took place.

“The formation of a coagulum in the artery does not necessarily block up the entire passage, but may leave a central opening by which the circulation yet continues to be carried on. But after the formation of the clot, it in its turn undergoes various changes; it may become absorbed or it softens or breaks up into granular matter, and is carried into the capillary circulation, or it is capable of organization, and we then find in it a network of fine bloodvessels. The last point serves to elucidate the observations of the passage of an artery occasionally seen in old coagula formed after the application of a ligature. Lobstein, as we are informed by Hasse, met with an arterial vessel of the calibre of the stylo-mastoid artery running lengthwise through the femoral artery obliterated two years previously by tying. Blandin and Barth have met with analogous instances to which may be added those cases in which, after the complete obliteration of arteries by ligature, new vessels have been found shooting from their extremities. The general infection of the blood from breaking up of arterial coagula, is a very rare occurrence; a circumstance which establishes a marked distinction between arterial and venous disease; it is referred by Rokitsansky to the greater susceptibility of the arterial blood for taking up inflammatory products, which speedily gives rise to coagulation and obturation of the vessel, and to the circumstance that their reaction in the arterial current, being exhausted towards the capillaries in ordinary cases, hinders the general infection of the blood beyond the limits of those vessels.”

The pathological anatomy of the alimentary canal is described by Dr. H. Jones with his usual clearness and accuracy. His own labors, in the investigation of the morbid conditions of the stomach, more particularly in reference to the processes of atrophy and glandular degeneration, contribute much to the interest of this section; but, as they are especially noticed in another portion of the present volume, they need not be further alluded to. In the chapters on the pathological anatomy of the joints, we have a very good summary of the labors of Sir B.

* *Anat. Pathologique*, tom. ii. p. 379.

† *On the Arteries*, p. 10.

‡ See Mr. Paget on Obstructions in the Pulmonary Arteries, *Medico-Chirurgical Transact.*, vo'. xxviii. p. 533.

Brodie, Key, Goodsir, Redfern, &c. The history of the structural changes occurring in that obscure affection described as "chronic rheumatic arthritis," is taken from Mr. W. Adam's communication on this subject to the Pathological Society of London, also noticed in another part of the present volume. We have remarked, with much pleasure, the free use made throughout this manual of the invaluable accumulation of facts contained in the transactions of this young, but important and rapidly increasing, society; and we would also observe, as a creditable feature of the manual, that full justice has been done to the labors of English pathologists, whilst those of our continental brethren have been equally appreciated.

We can confidently recommend this work to the profession, in the full assurance that it will contribute much to the diffusion of accurate pathological knowledge. In concluding our notice, we sincerely congratulate the profession on having a publisher as intimately acquainted with its wants, and as enterprising as Mr. Churchill, to whom too much praise cannot be given for adding this manual to his valuable series.

II.

REPORT ON THE PROGRESS OF SURGERY.

1. *Two Lectures on the treatment of Aneurism by compression, delivered at the Royal College of Surgeons.* By F. C. SKEY, F.R.S., Professor of Surgery to the College, &c. (*Medical Times and Gazette*, Sept. 23 and 30, 1854.)
2. *The treatment of Aneurism by compression.* By JOLIFFE TUFNELL, Esq. (*Medical Times and Gazette*, Oct. 14, 1854.)

1. Mr. Skey's lectures were delivered at the College of Surgeons during the past session. In them, the lecturer reviews the whole subject, and decides unhesitatingly in favor of the treatment by compression. The opinions expressed differ in no point from those which are entertained in Dublin, with this single exception, that Mr. Skey is not so completely satisfied as to the superior advantages of elastic pressure, as compared with ordinary modes of pressure.

In Mr. Skey's opinion, the statistics of the subject leave no room for hesitation, for all the evidence is on one side.

"From three unexceptionable sources of information," he writes, "we find that in the treatment of external aneurism by ligature nearly 25 per cent. prove fatal. The proportion certainly appears larger than I had myself calculated on; but if it be granted that these statistics form even an approach to the truth, the proportion of deaths is yet so great as to afford but a frail support to the advocates of the ligature.

"On the other hand, we have a list of 39 cases, of which 9 are shown to be either the subjects of other and necessarily fatal disease, or of some peculiarity in their cases or constitution which would, with the exception of 2, disqualify them for the ligature. Of the remaining 30, in which alone the treatment by compression was fully carried out, every case was cured. In 37 cases treated in America, 35 were cured. "Compression," says Dr. Bellingham, "has proved eminently successful in Dublin as a mode of treating popliteal and femoral aneurism, and has so completely superseded the ligature, that the latter has not been resorted to for several years past in a single case either in hospital or in private practice." Can there be a doubt on the mind of any rational man what will constitute the largely-predominant practice of the profession hereafter? In considering the causes of equivocal success that have attended the introduction of the treatment into England and Scotland, which includes some twenty-five cases, we are driven to the alternative either of inferring some difference in the case or in the treatment. It cannot be said that the Dublin cases are selected; for, if so, it would appear in the evidence; and, besides which, 39 cases of aneurism, almost exclusively popliteal and femoral, within nine years, is rather a large proportion of such population as would supply the Dublin hospitals with this particular form of disease. If the cases were selected cases, the supply of Irish aneurism must indeed be immense. It is not, I presume, too much to infer identity of disease between these published cases and such as occur to human nature throughout the world. If so, we must look to the treatment as constituting the remarkable difference in the results. We must follow our leaders more implicitly. We must adopt their practice, and imitate, with exactness, their details of management. The Dublin surgeons constitute an important section of the medical community. They are men of high education, and their schools are not surpassed, for strictness of intellectual discipline, throughout the world. Perhaps it is happy for English surgery that we do not succumb to rivals of inferior calibre. It is our duty, as it is our interest, to lay aside, if it exist at all, all rivalry, all jealousy, to confess our inferiority, and, by pursuing a similar

career, to reach the same eminence which has placed them, in this department of surgery, so much in advance of other schools. I feel justified in these remarks by the knowledge that this onward step in conservative surgery has been assailed with suspicion, with detraction, and even with abuse. Notwithstanding these temporary obstructions, which vulgar and unscrupulous men have not hesitated to resort to, we may look forward with the utmost certainty to the treatment of aneurism by compression as the future law of our profession."

2. Mr. Tufnell's communication, which is elicited by Mr. Skey's lectures, furnishes some valuable information, and, among other things, it sets forth very clearly the superior advantages of elastic pressure over any other kind of pressure. Mr. Tufnell proceeds:—

"The pressure of the pad, after a while, causes a degree of uneasiness, which, long continued, amounts to pain. To relieve this, the muscles of the part contract, and in doing so raise the integuments against the pad; this alteration of position of the fibre, slight as it may seem, being sufficient to afford relief. In this relief to the compressed muscular fibre does the whole secret lie. None such is afforded by the screw; when once applied, the whole limb lies fixed, that flexion or extension is forbidden of which the elastic pressure admits; and, consequently, a degree of pain and constitutional disturbance often follows, which, in an irritable patient, may mar the whole results.

"I am not speaking from theory, I appeal to experience for confirmation of my views, and I find it ably replying. I quote, as proof, from the writing of Dr. Hutton. He says, 'We could effect little or nothing with the screw clamp, from the patient's impatience of the pressure; but he was able to bear the elastic instrument of Dr. Carte for six hours, although the compression was equally complete, and pulsation prevented. In this case, after the application of the instrument, the pulsation ceased, and never after returned.'

"In another case, Dr. Hutton remarks: 'The patient sustained the compression during seven and a half successive hours, never allowing pulsation to return to the tumor. At the end of this time he removed the instrument; pulsation had wholly ceased; the aneurismal tumor became solid, and absorption soon commenced. I feel confident that this patient could not have borne the application of the screw clamp for so long a time.' These are tests of the efficiency of elastic pressure which, I think, cannot be gainsaid. These are the results of its working in the treatment of disease in Dublin. An easy mode, however, of establishing its superiority exists, which any member of the profession who doubts can test upon himself. Let him place a screw clamp upon the femoral artery at Scarpa's space, or on any other portion of the thigh, so as to stop pulsation in the vessel below. Let him then try to walk across the room; he will find himself, as it were, riveted to the spot, totally unable to move. Let him next substitute for the clamp, a circular compressor of Dr. Carte, and equally control circulation through the limb, and then try his powers of progression. Instead of inability to move, he will discover that he can proceed freely, and walk with ease, the piston of the pad rising and falling to each step as the muscles contract and extend, keeping still the artery compressed, and allowing no blood to pass through the point of arrest."

Mr. Tufnell also enters at some length into the statistics of the question, and these we give as serving to render still more indubitable the advantages of the treatment by compression, for they show that the cases reported have not been picked cases. Mr. Tufnell writes:—

"Now to enable the profession to judge of the accuracy of the statement I here make, I beg to offer to their notice the statistics of this disease as treated in Dublin by compression, from its revival in 1842, down to the present time."

The table gives the particulars of 47 cases of aneurism treated by compression, in Dublin, from Oct. 1842, to September, 1854; 6 were treated at Richmond Hospital; 9 at Steeven's; 6 at St. Vincent's; 3 at Jervis Street; 7 at the patient's residences; 3 at Meath Hospital; 5 at the Royal Military Infirmary; 1 at Adelaide Hospital; 3 at the City of Dublin Hospital; 2 at Mercer's Hospital; 1 at the Artillery Hospital; and in 1 the place of treatment is not stated. Out of these 47 cases, there were 36 cures by compression treatment. In 2 cases, the patients were females,—1, 22 years of age, duration of compression 20 days;

the other, 40, duration of compression 9 days; the latter right brachial, and the former right femoral—both cured. Of the 45 males, 1 died of disease of the heart, duration of compression 20 days; 1 of erysipelas; 1 of disease of heart and lungs; and 1 is reported as unsuccessful. Of the males, 15 were of right popliteal aneurism; 15 of left; and in 4 not stated; 4 of right femoral; and 3 of left; 1 of right brachial; and 1 brachial, side not specified; 1 of left radial; and 1 of right ulnar traumatic. In 7 cases they were the same patients as had been previously treated.

Most of the cases are reported in the *Dublin Medical Press*, the *Dublin Journal*, the *British Association Reports*, the *Dublin Quarterly Journal*, the *Dublin Hospital Gazette*, and 4 in *Tufnell on Compression*, pp. 125, 128.

Under Dr. Hutton	5	Under Dr. Fox	1
“ Mr. Cusack	7	“ Sir P. Crampton	1
“ Dr. Bellingham	5	“ Dr. Banon	1
“ Dr. Harrison	1	“ Dr. Clayton	2
“ Dr. Kirby	1	“ Dr. Read	1
“ Mr. Porter	2	“ Dr. Hargrave	1
“ Mr. O’Ferrall	2	“ Mr. Tufnell	3
“ Dr. Macdonnell	1	“ Dr. Quigley	1
“ Dr. Humfrey	2	“ Mr. Colles	1
“ Dr. O’Brien	1	“ Mr. Fleming	1
“ Mr. Smyly	1	“ Mr. Wilmot	2
“ Dr. Orr	1	“ Dr. Jameson	3

The ages of the male patients were as follows:—

11—20—24—²⁵—26—²⁷—²⁸—²⁹—³⁰—31—³²—³³—³⁴—36—37—38—40—43—44—45—46—48—55. 1 not stated.

The shortest duration of compression was one of 7 hours; the longest 93 days; the several periods were as follows:—

²2 days—4—5—6—⁷—8—9—11—12—13—²⁰—²¹—24—28—30—31—33—37—42—⁴³—53—70—72—93. And 7 hours—10—11—16—23—30—33—39. In 8 cases the duration is not stated.

In one case of popliteal aneurism, the ligature was applied, and the patient recovered; in another, of right popliteal, cured by compression, the left femoral had been previously tied for left popliteal aneurism. Interrupted pressure was applied in one case, cured. In a case of right brachial, in which the ligature was applied, there was high bifurcation, and two vessels were secured. In a case of left femoral, and in two of right popliteal, amputation was performed, and recovery took place; in another of left popliteal (male—25), the ligature was applied successfully. Dr. Fleming remarks upon the case, “It was decided that the treatment by compression should be tried, though no sanguine expectation was entertained as to its success, as well from the nature of the aneurism, as from the character of the patient.” In a case of left popliteal, cure was effected by manual compression made by the patient’s own thumb upon the artery at the groin. In another case in which ligature was applied unsuccessfully, the knee-joint was involved, and aneurism springing from the anterior aspect of the artery. In a case of common right femoral, cured by compression, the sac sprang from the femoral so immediately below Poupart’s ligament, that one point only existed where pressure was complete, so as not to admit a drop of blood into the sac. The man was well lowered by croton oil previously.

“In submitting this statement,” proceeds Mr. Tufnell, “I would beg emphatically to call attention to one fact—viz., that it contains *every single case* that has occurred in Dublin in which compression has been employed. It has not been compiled (as the statistics of ligature have) from certain published cases only; it includes every case of aneurism where a compressing instrument has been placed upon the limb; and, to show how general has been this treatment, I believe there have been three instances only during this time in which it has not been tried, two being ligatured at once, and amputation resorted to in the third. The profession, therefore, have here brought before them the practical working of compression in the treatment of aneurism in Dublin, and can judge of the result. It will be seen that the statement embraces a large number of names, some of whom have had only a single opportunity of treating the dis-

ease, and yet success in their hands has been equally complete with those having a larger number of cases. The 'experience of repetition' is not, therefore, necessary for success. It assuredly is a great advantage to have had practical experience, especially in the management of details; but, the principle of compression once established and understood, *judgment in selection, and watchful care in the management of the cases*, are alone required."

1. *Primary Ulceration of the Intervertebral Fibro-cartilage between the fourth and fifth Lumbar Vertebrae, with Lumbar Abscess, but without destructive disease of the Bones.* By W. ADAMS, Assistant Surgeon to the Orthopædic Hospital, (*Pathol. Trans.*, vol. v.)
2. *Ulceration of the Intervertebral Fibro-cartilage, between the tenth and eleventh Dorsal, and the third and fourth Lumbar Vertebrae, with Psoas Abscess, but without destructive disease of the Bones.* By W. ADAMS, (*Pathol. Trans.*, vol. v.)
3. *Primary Ulceration of the Fibro-cartilage of the Symphysis Pubis, and large Abscess in the Sheath of the Rectus Muscle, communicating with the Joint.* By W. ADAMS, (*Pathol. Trans.*, vol. v.)
4. *A Critical Examination of a Pathological Specimen of softening of the Intervertebral Cartilage.* By LOUIS BAUER, M.D., (*New York Journal of Medicine*, May, 1854.)

The liability of cartilaginous and fibro-cartilaginous structures to primary disease is a question of much pathological importance, and our knowledge of the subject is imperfect, because opportunities of examining destructive disease of the joints and spine in an early stage, by which alone the nature of the primary affection can be ascertained, are rare. When we examine them after death or amputation, several structures are found to be involved in the disease, and the order in which they have been invaded cannot be satisfactorily determined. The investigation must therefore be conducted either in cases in which the joint, or spinal affection, in an early stage coexists with some other fatal disease; or in which the local affection, though in an advanced stage, and, perhaps, causing the death of the individual, is found upon examination to be limited to a single structure. In those instances alone can the liability, either special or relative, of the different structures entering into the composition of the joints or spinal column, to the various forms of disease be determined. Several examples of the latter class of cases, occurring in the spinal column, and one in the articulation of the symphysis pubis, have been recently recorded; and we proceed to bring them under the notice of our readers. Three cases are recorded by Dr. Wm. Adams, in the last volume of the *Transactions of the Pathological Society of London*; and one by Dr. Louis Bauer, of New York, in the *New York Journal of Medicine*, for May, 1854.

The first case reported by Mr. Adams occurred in a sailor, æt. 43, admitted into St. Thomas' Hospital, July 5th, 1853, and who died Nov. 10th, 1853. Some months previous to his admission, he had received a blow on the spine, in the lumbar region, and to this circumstance he traced his illness. An abscess opened in the left lumbar region, and a discharge, at times profuse, continued up to his death, which resulted from gradual exhaustion.

"*Post-mortem examination.*—Average conformation. Body emaciated, but not to an extreme degree. Both legs œdematous. In the left lumbar region was an old fistulous opening leading towards the spine.

"Both lungs exhibited a large amount of old tuberculous deposit in their apices and upper portions which were deeply puckered and contracted. There was also a small quantity of recent tuberculous deposit scattered through both lungs. Heart healthy.

"The liver was slightly enlarged, and presented a tendency to a firm waxy condition. Both kidneys presented, on section, a pale, mottled appearance, and their surfaces were granular; but these organs were not in a very advanced stage of disease. The spleen presented a well-marked waxy appearance; the Malpi-

ghian bodies were enlarged, and resembled in appearance small gray translucent miliary tubercles. Stomach and intestines healthy.

“The intervertebral fibro-cartilage between the fourth and fifth lumbar vertebræ had entirely disappeared, leaving a chasm corresponding in shape and size exactly to the removed intervertebral substance. The exposed surfaces of the adjacent vertebræ were not carious. A vertical section through the vertebral column showed that the cancellous tissue of the bodies of the fourth and fifth vertebræ had, to some extent, undergone a process of induration; these bones were paler than the other vertebræ, and more compact. In front of the fourth and fifth lumbar vertebræ the external common ligament and fibro-cellular structures were raised and thickened, so as to form, together with the adjacent surfaces of the above-named vertebræ, the sac of an old abscess, from which pus extended on the left side upwards and downwards in the course of the psoas muscle. The external fistulous opening communicated with this cavity.”

In this case, the intervertebral cartilage was the only structure involved in the destructive disease, and it is a good example, though we suspect a very rare one, of the affection being limited to a single intervertebral cartilage, and causing the death of the individual. The abundant secretion of pus, which exhausted the patient, must in this case have been derived from the vascular walls of the fistulous canal, leading from the seat of disease to the external opening. The pale and indurated condition of the cancellous structure of the bodies of the adjacent vertebræ must be regarded as the result of a chronic inflammatory process, under conditions opposed to the invasion of caries. In the second case, in addition to the indurated condition of the cancellous tissue, a considerable quantity of new bone is described as having been thrown out in several places, in the form of bridges, across the intervertebral cartilages, and perforated or irregular cribriform plate-like processes from the sides of the bodies of the vertebræ, particularly situated at the edges of the great abscess in front of the spine, where the fibrous structures were still connected with the bodies of the vertebræ, and it was from ossification of the fibrous structures that the new bone appeared to have been formed. The coexistence of these changes in the bodies of the vertebræ, and ossification of the fibrous structures on the surface of the vertebral column, with destructive disease of the intervertebral cartilage, is a point of much interest, which appears to indicate a resisting and reparative process.

We subjoin the particulars of the second case:—

“The parts were removed from the body of J. C—, æt. 41, a laborer, admitted into St. Thomas’ Hospital, on the 9th of August, 1853, under Dr. Bennett. He died on the 26th of November, 1853.

“*Post-mortem examination by Dr. Bristowe.*—Body emaciated. Lower extremities œdematous. A little below the anterior superior spinous process of the right ilium was an ulcerated opening, whence oozed pus in considerable abundance.

“Heart and lungs generally healthy.

“The peritoneal cavity contained several pints of serum. Liver of large size, and somewhat granular and lobular on the surface; it was pale, soft, and excessively fatty throughout. Spleen large, its capsule somewhat opaque; its substance firm, pale, and somewhat translucent. Kidneys rather small, pale, and slightly fissured on the surface. Small intestines healthy.

“A fluctuating tumor, about as large as a hen’s egg, was observed in the lower part of the right side of the chest, close to the spine, projecting into the pleura. The cellular tissue and fat around the front of the spinal column, from the second or third dorsal to the last lumbar vertebra, were very much indurated and increased in thickness. On cutting through, and partly removing this, the bodies of the vertebræ, from the sixth dorsal to the last lumbar, inclusive, were seen to be more or less denuded and bathed in pus, which occupied a long branching cavity between the bones and the indurated tissues. The bodies of the seventh to the eleventh dorsal vertebræ were altogether exposed, as far back as the origins of the transverse processes, and, in two or three of them, the costo-vertebral articulations were laid open, and their ligaments and cartilages destroyed. In the vertebræ below these the exposure was less extensive, some being denuded anteriorly only, others laterally.

"The surfaces of the exposed bones, though quite bare, were not at all destroyed, and, indeed, were somewhat indurated. In several parts, however, the intervertebral substance appeared somewhat eroded, and this was especially the case between the eighth and ninth vertebra, where it was irregularly destroyed, to the depth of half an inch; it was opposite this part, that the fluctuating tumor, which projected into the pleura, and was merely a sort of diverticulum of the larger abscess, was situated. The anterior common ligament was, of course, in a great measure destroyed, but, where part of it still adhered, as was the case chiefly in the lumbar region, patches of new and firm bone were occasionally found deposited on the surfaces of the vertebræ; this was especially seen on the right side of the first lumbar, where the new bone bounded an oblique groove, in which ran a sinus that was continued along the right psoas muscle to the opening in the groin; this sinus was very narrow, bounded by indurated tissues, and gave passage to the pus from the foot of the vertebral column.

"On making a longitudinal section of the vertebræ, they were found, for the most part, healthy, but opaque and indurated, to the depth of two or three lines anteriorly, where they abutted on the abscess, and also in those parts which bounded diseased intervertebral substance. The posterior half of the intervertebral cartilage, between the tenth and eleventh vertebræ, was destroyed, and the central portion of that between the third and fourth lumbar. No pus was found in the spinal canal, and nothing that could have pressed on, or otherwise injured, the spinal cord, which was healthy."

The case of primary ulceration of the fibro-cartilage of the symphysis pubis, to which we have referred at the beginning of this article, is strictly analogous to these cases of spinal disease.

The case related by Mr. Bauer, a few months subsequent to the above, is a valuable confirmation of the preceding observations by Mr. Adams, and as the disease was in some parts, in a much earlier stage, the structural changes in the cartilages admitted of being carefully traced. It occurred in a youth æt. 21, who suffered for about 18 months from disease of the spine, and died with symptoms of retention of urea in the blood.

"The specimen embraces the five lower thoracic, all the lumbar vertebræ, and the sacrum. On the outside, right and left, there are large cavities between the psoas and quadratus muscles, connected both with a carious ulcer of the spine and the surface. In its passage, the matter had superficially corroded the left transverse process of the third lumbar vertebra. The left kidney was somewhat adherent to the spine by rigid and short fibrous bands; traces of fatty degeneration were also perceptible in that organ.

"The spine itself, anteriorly and longitudinally divided, presented in its fresh state the following appearances: no engorgement of blood; no tubercular deposits; no ordinary signs of inflammation, nor any trace of inflammatory products; the fibro-cartilages were very much softened, being almost gelatinous, out of which oily and adhesive liquid could be squeezed; the color of both the cartilages and the infiltrated liquid was of a whitish tint. The elasticity of the cartilages had entirely disappeared; they were apparently of different consistence; nearer to the carious ulcer, appearing to be softer than the more distant. Between the second and third lumbar vertebræ there was carious disintegration, more superficial on the inferior surface of the second, but more substantial on the inferior surface of the third. In the centre of the third lumbar vertebral body, there was a small and movable sequestrum, and outside of that bone the commencement of an osteophyte became observable. The corresponding intervertebral cartilage was almost entirely destroyed, the anterior laminæ only being left; but those vertebral bodies had not approximated, being kept separated by the articular process. On the inferior surface of the eleventh thoracic vertebræ, about its centre, there was a small carious excavation surrounded by dense osseous tissue (eburnated), and filled with an elongation of cartilage. Finally, it deserves to be mentioned, that the spine was almost straightened, the normal curves having nearly disappeared. This latter condition of the spine was by no means the effect of death, being found also in the cast, taken in plaster from the living patient by myself.

"The microscopical examination, kindly aided by Prof. Alonzo Clark, pre-

sented the unmistakable marks of textural disintegration and fatty degeneration of the intervertebral cartilages in different degrees of advancement, from the breaking up of the fibrous texture, down to nucleated, elongated cells, corpuscles, and fat-globules; but there was no evidence of tubercular matter.

"The nature of the case, and the peculiar pathological conditions of this specimen, give rise to most important considerations.

"In the first place, it is of the utmost importance to determine whether the disease originated in the vertebral bodies, extending subsequently to the intervertebral cartilages, or *vice versa*. In examining this specimen, it strikes one forcibly that the carious destruction is not only of limited extent, and comparatively superficial, but it is also confined to three vertebræ. Moreover, the caries, at the inferior surface of the eleventh thoracic vertebra, is in its incipient stage, presenting in its immediate vicinity eburnated osseous structure, which has been recognized by Jones Tones as characteristic of the earliest phase of caries. The excavation is but trifling, and would scarcely receive a small-sized pea.

"The remaining seven vertebræ were, to all appearance, in normal condition. But the intervertebral cartilage between the second and third lumbar vertebræ is almost consumed, the anterior portion only being left. And the other intervertebral cartilages (notwithstanding that their corresponding vertebral bodies are in perfect integrity) are disintegrated and degenerated to a greater or less degree, obvious to the naked eye, as well as to microscopical inspection. Had the bones been primarily affected, the disease of the cartilages would have been confined to the neighborhood of the carious affection, and the degree of disorganization of the former would bear comparison with the extent of caries."

"Authors of note assert that cartilaginous tissue is not liable to inflammation, on account of not possessing bloodvessels and nerves. Later and more minute anatomical investigations have, however, shown that at least fibro-cartilages receive some minor bloodvessels, though they do not ramify in its parenchyma. But some modern writers entertain the idea that inflammation is but a perverted nutritive process, excited by morbid irritation. According to Redfern, Goodsir, Gurlt, Carpenter, Paget, Virchow, and others, cartilaginous structure is just as liable to inflammation as any other, provided that the formative action is carried on by some means; though the signs of inflammation, and the subsequent structural changes are necessarily influenced by those peculiarities which the nutritive process present. Thus we find in conformity with the observations of Redfern, Goodsir, and Gurlt, the inflammatory changes confined to the cartilaginous fibres and cells—the former broken down, partly dissolved and separated; the latter enlarged, deformed, the nuclei degenerated into corpuscles, and the hyaline substance infiltrated with serous fluid. In comparing these statements of the before-mentioned authors with the pathological peculiarities of the specimen under consideration, I am inclined to believe that a *low grade of inflammation* has been the nature of the disease. But however opinions may differ on this point, it will be unreservedly admitted, that the character of that malady of debility is minus of action, resulting in structural disintegration. And this is decidedly of great practical weight in reference to the treatment in analogous cases.

"A third point worthy of discussion is the straight form of the spine. A straight vertebral column, at the age of twenty-one years, must be considered a deformity, for there should be two curves, respectively in the thoracic and lumbar portions. This deformity is undoubtedly attributable to the entire loss of elasticity in the intervertebral cartilages, and at the same time to the recumbent posture the patient had adopted during the last fifteen months of his illness. In that position the spine had but to yield to the weight of those organs which pressed upon it anteriorly, and to adapt itself to the mattress. To this circumstance may be attributed the absence of approximation between the second and third lumbar vertebræ, which would have been unavoidable in the erect posture. The fact that (according to the above statement) the spinal column had assumed a straight form, is a sufficient proof that the opposite deformity would have been acquired by the patient in the upright position."

It appears to be Mr. Adams's opinion, derived, as he states, from the *post-mortem* examination of several cases of spinal disease in the early stages, made by him at St. Thomas's Hospital, during the last eleven years, and also from the

examination of the preparations in the museums of London that, in the majority of instances of destructive disease of the spine, the affection commences in ulceration of one or more of the intervertebral fibro-cartilages, and generally in the central and more truly cartilaginous portions of the disks. The disease, from first to last, is sometimes limited to the intervertebral substance, as in the first specimen described, but more frequently it extends to the bodies of the vertebræ, especially in young persons; the bones being then destroyed by the two processes, caries and necrosis, proceeding simultaneously. This view of the pathology of those affections brings the destructive diseases of the spine into a closer relation to the ordinary diseases of joints, and the joint-end of bones, than has generally been acceded to them.

The general interest of this subject, we need hardly observe, is in relation to the pathology of "Pott's disease," which appears to have been too exclusively regarded as depending upon caries of the spine, the destruction of the intervertebral cartilages being considered of little importance, and ranked only amongst the secondary phenomena.

1. *On the topical medication of the Larynx in certain diseases of the Respiratory and Vocal Organs.* By EBEN WATSON, A.M., M.D., Lecturer on the Institutes of Medicine in the Andersonian University. (8vo., London, Churchill, 1854; pp. 183.)
2. *On Aphonia arising from Organic Lesions.* By HORACE GREEN, M.D. (*The Lancet*, May 13, 1854.)

At different times during the last four years, we have had occasion to notice the effects of topical medication of the larynx in various affections of the respiratory and vocal organs, but we have never attempted to give any connected or extended view of the subject. We are glad, therefore, of the opportunity which Dr. Eben Watson now affords us, for we are convinced that this mode of medication in proper cases and in competent hands, will be found to be a valuable addition to the resources of medicine.

In 1816, it appears, Sir Charles Bell attempted to apply a solution of lunar caustic to the interior of the larynx by means of a piece of lint fastened to the end of a catheter-wire, and this is the first attempt of the kind on record. It is doubtful whether he succeeded. After him, MM. Trousseau and Belloc endeavored to do the same thing, and used for this purpose a probang of whalebone, armed with a piece of sponge. They certainly did not succeed with this instrument, and before long they abandoned it for a syringe of peculiar shape. These apparently, were the only attempts at topical medication of the larynx which had been made before 1840, when Dr. Horace Green took up the question, and drew attention to it.

As might be expected, Dr. Green's proposal to "sponge out" the larynx was one which met with warm opposition, and this the more, seeing that it was made in very confident and sanguine terms. Everything was doubted, and particularly the possibility of performing the operation. Even still there are persons in high position who entertain these doubts. With regard to the possibility of performing the operation, however, there need be no doubt, for this question is set at rest in many ways,—by the case of the man related by Dr. Horace Green, and reported in a former volume (volume xvi.), in whom a piece of sponge, much larger than that used in these operations, slipped accidentally into the windpipe, and became impacted in a bronchus, whence it had to be removed by tracheotomy; by the cases recorded at various times in which pieces of bone or coin have found their way into the larynx; by the fact that the stomach-pump has over and over again been passed into the trachea of the living subject, both intentionally and unintentionally; and that Dessault actually proposes to do this in some cases as a substitute for tracheotomy; by the actual size of the laryngeal opening; by the feelings of the patients; and by the evidence of those who are practised in the operation. With common skill and patience, also, any one may convince himself of the practicability of the operation by attempting it on

the dead body. Discarding this difficulty, therefore, we proceed to learn from Dr. Eben Watson the details of the operation. He writes:—

“*Laryngeal probangs*, as I shall call them for want of a better name, should be made of whalebone, strong enough to be easily directed, and yet sufficiently flexible to yield to the pressure of the parts to be operated on. The sponge should be firmly fixed upon one extremity, and should not exceed one quarter of an inch in diameter, while it should sometimes be even smaller. One who is accustomed to make such instruments can easily attach such small sponges with sufficient firmness to the whalebones, and, at the same time, leave their surfaces soft and free of threads where they are to come into contact with the mucous membrane.

“The curve which I prefer is not a great one, but is just such a bend as will enable the operator easily to avoid the tongue and epiglottis in endeavoring to touch the deeper parts. When this curve is greater, or when it is made to coincide with the quarter of a small circle, as Dr. Green recommends, I have found it a hindrance to the passage of the instrument into the glottis, because the power of the hand is not applied with sufficient directness, and also because the curve itself is an obstruction to the entrance of the extremity of the probang into a tube like the larynx.”

Dr. Eben Watson does not appear to recommend any spatula for depressing and bringing forward the tongue.

“I believe,” he says, “that little or no assistance from sight can be obtained in the practice of topical applications to the larynx; and that the only way of assuring one’s self that he enters the rima glottidis, is to introduce the forefinger of the left hand into the mouth of the patient, passing it over the root of the tongue, till its point comes in contact with the tip of the epiglottis. By now maintaining the finger in this position, and cleverly passing the sponge of the laryngeal probang over it, the rima glottidis is reached with perfect certainty.”

In order to the success of the operation, one of the most important rules of practice is to habituate the entrance of the larynx and the fauces to the presence of the instrument, in one or more preliminary occasions. This is insisted upon both by Dr. Eben Watson and Dr. Horace Green, and it forms a prominent point in the paper of the latter gentleman which is now under notice. If this precaution be not attended to, the attempt in all probability will be frustrated by spasm,—for on no account must the passage of the larynx be forced when spasm is present. Indeed, at any time, the rule is to take the larynx by surprise, and pass the instrument at the moment of inspiration, when the muscles are relaxed, and the aperture open,—and when, with proper promptitude and dexterity, the instrument may be passed, not only into the larynx, but into the trachea. Still, the whole affair is the work of an instant, and the immediate *besoin de respirer* is such, as to leave no time for that leisurely “mopping out” of either bronchus which has been stated to be practicable in some quarters.

Of the effects and signs of the introduction of the instrument, Dr. Eben Watson speaks as follows:—

“Immediately upon this being accomplished, a more or less violent expiration is produced, during which, in most cases, the probang may be withdrawn so easily that the glottis is hardly, if at all, felt by the operator. The strong contraction which is sometimes felt detaining the probang in the throat is not produced by the glottidean muscles, but by those of the pharynx; and its occurrence may safely be taken as a good indication that the sponge had never been passed into the larynx at all.

“On attempting to take the first breath after the withdrawal of the instrument, the patient generally, even with the proper amount of previous preparation, finds an obstruction in the windpipe, and his efforts to overcome it occasion a stridulous noise. If he is frightened at this, or if the part be peculiarly excitable, the duration of the spasm may be prolonged; but in the great majority of instances, a little quietness and refraining from violent efforts to inspire, are sufficient to enable him speedily to recover his usual freedom. The voice, however, becomes generally weak, and a roughness in the air-tube is experienced during respiration for a variable length of time after the touching has been performed;

and sometimes, when the patient expectorates long after the operation, he perceives the taste of caustic in the mouth."

Of the various substances which have been recommended or tried as local applications to the interior of the larynx, Dr. Eben Watson considers the pure crystals of nitrate of silver as unquestionably the best; and after them the hyposulphite of soda and silver ($\mathfrak{D}\mathfrak{j}$ to $\mathfrak{Z}\mathfrak{j}$, of water), the latter salt being most useful in cases where the discharges from the inflamed mucous membrane have an acid reaction, where a mild application is sufficient, and where the taste of the nitrate of silver is strongly objected to—the taste of the hyposulphite being sweetish and somewhat agreeable.

The solutions of the nitrate of silver are of different strengths, and Dr. Eben Watson finds it convenient to number them, as M. Joubert has done: No. I. containing 10 grains of the crystals of nitrate of silver to the ounce of distilled water; No. II., containing 20 grains; No. III., 40 grains; and No. IV., 60 grains; to the ounce of water.

With this preliminary explanation we now proceed to notice the practical results of the treatment under consideration; and in doing this, we may say that whatever the affection, whether inflammatory or nervous, provided the larynx could be shown to be, or supposed to be, affected, the treatment has been tried. The object in view has been to protect eroded surfaces, to stimulate the circulation, to unload congested vessels by producing exosmotic currents, or to remove nervous excitability. Dr. Eben Watson has given the treatment a trial in a wide range of subjects—acute laryngitis, chronic laryngitis, aphonia, whooping-cough, spasmodic asthma, stomach and hysterical coughs, laryngismus, and the laryngeal complication of pulmonary phthisis; and we now proceed to notice the results of this trial as stated in his book, omitting as not connected with the question at issue, many excellent remarks upon the pathology and diagnosis of the several affections which have been named.

(a) *Acute Laryngitis*.—The conclusion at which Dr. E. Watson arrived is, that topical medication is in no way suited to active and sthenic laryngitis, and that it is especially unsuitable in that variety of laryngitis, which is attended with plastic exudation, as in true croup. In this latter part of the conclusion he appears to differ from Dr. Horace Green, but, as he shows, this difference is more apparent than real.

"Dr. Green," he writes, "illustrates his little work on 'Croup' by thirteen cases. He may possibly refer to others throughout the work, but these are the only examples fully related, so that they can be judged of independently by the reader; hence they are carefully numbered, so as to permit of easy reference. Of these thirteen cases, two are quoted from Mr. Ryland's work on the 'Larynx,' chiefly for the sake of the account given by that author of the morbid appearances after death. In these, of course, the topical treatment was not used, so that the cases which illustrate this treatment given by Dr. Green are reduced to eleven. Nor am I convinced that these were all cases of true exudative croup; nay, I think it is certain they were not; for No. V. was a mere hoarseness, and No. VIII. was a spasmodic affection of the glottis, which came and went without any symptom of croup at all. Nos. II., VII., and X., were apparently cases of acute oedema glottidis: leaving only six cases the symptoms of which resemble those of croup. Even some of these six have more the characters of diphtheritis than of croup, and in one of them (No. XIII.) the affection followed measles. In only four of the six cases was the disease fully developed, and of them one-half died. But, supposing that all the eleven cases related in this book were really cases of croup, more or less severe, I do not think that the mortality among them, viz., three deaths in eleven cases, was less than it generally is in the ordinary run of croupy cases occurring in the better ranks of life, and treated in the usual way. It follows, therefore, that Dr. Green's experience, so far as we have it in his work on 'Croup,' does not show that his success in the treatment of cases of that disease was increased by his using the topical applications to the interior of the larynx; for he very properly used other measures as well, and the result has been a mortality not at all less than if he had neglected the topical treatment altogether. I consider it in no small corroboration of my opinion, in regard of this point, that M. Trousseau states in the 'Union Médicale' for 1851,

No. 100, as one reason of his superior success of late years in the treatment of severe cases of croup by the performance of tracheotomy, that he has discontinued the application of a strong solution of caustic to the larynx and trachea, which he used formerly to insist upon after the operation."

Though unsuitable in active laryngitis, however, Dr. E. Watson contends, that topical medication is useful in subacute inflammation, or when the force of the inflammation has been subdued by appropriate treatment. In croup, also, he contends that there is a preliminary period, which he calls the "pre-exudative stage," in which the inflammation may be cut short by topical medication—a period in which the inflammatory action does not differ in any respect from acute catarrh; and he cites the following case in corroboration of his opinion—an opinion, moreover, in which Dr. Horace Green coincides.

CASE 5.—It is that of a family of young children, all of whom are remarkably subject to croup, and, notwithstanding the utmost care in their management, some of them have suffered once or twice from the disease, during the winter, for some years past. In the beginning of the present year, I attended two of them, and, within the last few days, a third, when attacked by this disagreeable visitant.

Whenever a croupy cough is heard in this family, the throat and larynx are at once touched with the solution of caustic. A warm bath, a few drops of antimonial wine, and, if necessary, a dose of laxative medicine, are next had recourse to, and very little else is generally required. The throat is touched for the two or three succeeding days, by which time the child is usually quite well.

Only once that I remember did this abortive treatment fail in my hands, and it was in the case of a member of the family here referred to. The weather was at the time very severe, and the subject of the disease, a strong little boy about six years of age. For some reason or other, it was longer than usual, too, before the topical application was made to the larynx, and it failed. Exudation was thrown out, and the boy passed through a critical illness, during the intensity of which I laid aside the topical treatment, and employed leeches, calomel, and antimony. But, when, as happily occurred in this case, the exudation had separated in due time, I renewed the stimulant application to the windpipe, with marked benefit, and the child made a speedy and perfect recovery.

Topical medication is also shown to be of extreme utility in that form of laryngitis in which congestion and serous effusion are the predominant features, and this is illustrated by a case which tells its own tale.

CASE 6.—A young child, of eight months' old, had severe hemorrhage from the gums after division of them over the incisor teeth, and in the exhausted state which followed, he caught cold, and became affected with the ordinary symptoms of croup, which were chiefly combated by an emetic, counter-irritation over the throat and chest, and by repeated small doses of calomel. But very soon the chief, nay only symptom, became that of impeded respiration. The child's efforts during inspiration, the dry whistling sound which accompanied it in the trachea, the nearly total absence of vesicular murmur in the lungs, and the short expiratory sounds, taken along with the previous state of the little patient, rendered it evident that œdema glottidis had occurred; and if to this it be added that the pulse was feeble, the patient pale and exhausted, and that he could hardly be made to receive nourishment, his extreme danger will not be questioned.

I introduced the probang down to the glottis, but not through the rima, owing to the swelling of its margins. The strength of the solution used was thirty grains to the ounce of water, and it was applied three or four times at short intervals. The effect was soon apparent. Some coughing and the expulsion of tough muco-albuminous matter first followed, and then the child became quiet, the breathing was freer, although of course there was still considerable obstruction at the glottis. In a few hours this obstruction seemed to be increasing, and the application of the caustic solution was again renewed in the same way,

and with equally favorable results. The calomel was continued, and a warm water enema was administered, after the action of which the child took the breast, and slept for a short time. The future progress of the case was marked by a gradual but steady improvement. The calomel was soon stopped, the bowels were duly regulated, and the topical applications were persevered in daily for two or three weeks, by the end of which time all obstruction to the breathing, as well as the cough, and even a degree of hoarseness which had latterly been observed, had completely disappeared, and the child's general health rapidly improved.

(b.) *Chronic Laryngitis*.—In the chapter which treats of this subject, several very excellent cases are related, in which the treatment under consideration had been tried. In this treatment, the chief dependence is placed upon topical measures, but other means are not neglected, and especially silence. The necessity of caution and care is inculcated, where the lungs are at all implicated, and so also is the suspension of topical treatment (as it seems to us) during those occasional acute exacerbations which occur during chronic laryngitis.

“The strength of the solution should vary with the requirements of the case, and it should be applied every day, or every second day, according to the patient's feelings. After each application, a degree of rawness in the throat and windpipe, sometimes amounting to positive pain, will supervene, and while this lasts no new application should be made; but, as soon after its subsidence as convenient, it may be repeated with benefit. In fact, the sooner it can be done the better; for, powerful as we believe the remedy to be, it is often a long time ere any perceptible improvement takes place, especially when the case is one of long standing. It is of great importance that both surgeon and patient be prepared for this before commencing the treatment, else disappointment will infallibly ensue. All attempts on the part of the patient to test the progress of the cure should be for a time discouraged by the surgeon, and he should carefully avoid appearing to expect improvement, by asking after the symptoms, until he has good reason to believe that they are yielding. Indeed, I have seldom found it necessary to ask at all after improvement in such cases, for the patient himself is always fully aware of it when it has occurred, and equally eager to speak of it.”

As an illustration of the cases in which the treatment was successful, we cite the following case:—

CASE 12.—A clergyman from the north of Scotland committed himself to my care in January, 1850. Fully six years before, he had been attacked by what he considered a common hoarseness, which he disregarded for a time; but, as it grew worse, he at length sought for medical advice. His case seemed a difficult one, and baffled the treatment of the surgeon who ordinarily attended him. He therefore removed from the country, where his parish was situated, into Glasgow, and put himself under my father's care. He was then treated by frequent leeching and blistering; he was put on a mild and continued course of mercury, followed by one of iodine, and latterly he had caustic issues made at each side of the thyroid cartilage. With these kept open, he resided for several winters in the south of England, and never during his whole treatment, did he at all exert his voice, but spoke when necessary, in an under tone. At length he returned home, having derived little or no benefit from the means he had employed, and determined to give up all idea of being able to discharge the duties of a clergyman.

His complaint, however, did not become stationary, for he soon found that not only was he unable to speak aloud, but he could not sit for any length of time in a heated or crowded room. He was therefore debarred from attending public worship, and even when in the same room with a few friends, in private, he latterly felt so oppressed that he was obliged to go out into the fresh air now and again to breathe freely.

He was in this state when he visited me on the 6th of January, 1850. He spoke with apparent difficulty, in a low husky whisper, which in a few minutes became broken and disagreeable. His health was perfectly good, and he had

no cough. On examining his throat nothing particular was seen. The mucous membrane was of its usual color, the palate was not relaxed, and no papules or follicular ulcers were to be discovered.

He complained of a burning pain, and frequently of an intense feeling of dryness in the larynx. The pain was not increased by pressure of the thyroid cartilage from without, but during the process of applying the solution of caustic afterwards, he often mentioned that it smarted at that spot. Percussion of the larynx and trachea was loud and sonorous; the breath sounds were dry and hissing, and both the expiratory and inspiratory were of equal duration; the voice heard through the stethoscope applied over the thyroid, had a stifled, and sometimes almost a croupy tone, and the cough had a similar character.

I lost no time in commencing the topical treatment in this case, at first with a solution of one scruple of the nitrate of silver in an ounce of water. I permitted him to take exercise daily in the open air, but advised the use of the respirator, as the weather was cold and changeable. I also recommended a blister over the larynx to assist in diminishing its irritability, and allow me sooner to pass my sponge through the glottis. This was accomplished in two or three days after commencing the treatment, viz., about the 8th or 9th of January, and continued every day, with few exceptions, till the end of the month. He then found himself so much improved as to be able to attend even a crowded church without feeling such oppression of breathing as formerly, and without losing his voice, which was greatly improved, though still husky and irregular, i. e., incapable of modulation. I continued to touch the interior of the larynx, the glottis, and epiglottis, during the whole of February, every second or third day; and I increased the strength of the solution to two scruples of the nitrate of silver to an ounce of water. By the end of this, the second month of treatment, his sensations were so different, and his voice so much improved, that he considered himself cured. He had for some weeks attended public worship regularly twice every Sunday; a habit which he had been obliged to discontinue during the four previous years of his life. He could now speak or read aloud in an ordinary room without difficulty or failure of voice. His tone was firm and clear, and he modulated his voice as much as he had ever done.

I cautioned him against any excessive use of his voice, but encouraged him to exercise it moderately every day. I recommended him still to use the respirator, and to have his throat touched by some surgeon at least once a week, till his voice was fully restored. Since the period of his residence in Glasgow, I have repeatedly seen and conversed with him, and am able to state that his voice remains strong, and that he is free from all his other laryngeal symptoms.

(c.) *Aphonia*.—The chapter on this subject in Dr. E. Watson's work, and the paper by Dr. H. Green, the title of which is prefixed to this article, are both occupied to a great extent with a description of the varieties of aphonia, but we need not enter into this part of the subject, for practically the conclusion is that topical medication is suitable and essential in all varieties. "My experience," says Dr. Green, "is entirely in favor of the topical application of strong solutions of crystallized nitrate of silver, constitutional remedies being at the same time employed when indicated, as in other cases where local disease is complicated with general derangement. As *auxiliaries* to the topical treatment, I have found benefit to be derived from the preparations of iodine, chalybeates, and other tonics, with inhalation of creasote, but alone I have found them of no avail" (*The Lancet*, 13th May, p. 513). Dr. Watson does not point out any variety of aphonia in which the topical medication is not suited, but he relates cases of all kinds—cases depending on thickening of the glottis, on palsy of the glottidean muscles, on relaxation and thickening and ulceration of the mucous membrane, in which it did good, and for the most part the cases are convincing and conclusive as to this being the case.

(d.) *Hooping-cough*.—The chapter on this subject is one of considerable interest, though occupied with the discussion of many matters which are foreign to the question in hand. Dr. E. Watson is very wishful to prove that inflammatory action in the upper part of the air-tube is an essential part, and not an accidental occurrence in hooping-cough; but we do not know why he should be so, for,

as he himself shows afterwards, the topical medication is useful in nervous as well as in inflammatory conditions of the larynx. Nay, we rather gather from the history of laryngitis, that true inflammation is in itself an objection to this mode of treatment. In hooping-cough also, Dr. E. Watson finds that "just in proportion to the intensity of the inflammatory process which may be present, so ought the solution employed to be proportionally *weak*." P. 116).

Apart from theory, however, the facts here stated are of great interest, and more conclusive, perhaps, than any other in the volume.

Pursued with proper precautions, and with especial attention to the diet and regimen of the patients, the topical treatment of hooping-cough is shown to shorten the disease in a remarkable manner, and to render it nearly as mild as ordinary catarrh.

"Complications seldom occur, and thus the disease is stripped of its most formidable characteristic. Hence it is that I can give the following favorable numerical account of the results of the treatment in question:—

	Cured within a fortnight.	Cured in 3-4 weeks.	Resisted treatment.	Total.
M. Joubert's cases,	40	20	8	68
Cases treated throughout by myself,	46	20	0	66
	<hr/> 86	<hr/> 40	<hr/> 8	<hr/> 134

"During the last spring there has been an epidemic prevalence of hooping-cough, not only in Glasgow, but in the neighboring country. I have, therefore, had an opportunity of seeing a considerable number of cases; and having treated the most of these myself, throughout their whole progress, I may add them to the preceding table. I shall divide them into three classes—those cured within a fortnight, those cured in three weeks, and those cured in four weeks. My reason for this change is, that the disease seemed to me in most of these cases very severe, and the majority of them were not cured till the third week. The numbers are as follows:—Cured in a fortnight, 10; in three weeks, 16; in four weeks, 5; resisted the treatment, 1; died, 1.

"The proportions then stand thus:—

Cured in two weeks,	96 cases	or	57·4 per cent.
" in three to four weeks,	61 "	or	36·5 "
Resisted the treatment,	9 "	or	5·3 "
Died,	1 "	or nearly	0·6 "

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"Many of the cases which were longest under treatment had relapsed; but I have counted the whole period, from the commencement to the end of the treatment, without any distinction in every instance: though it often happened that the disease was almost completely banished within the fortnight, when, from some unlucky exposure, the hoops were brought back again for a time. It was such a case that I have marked as having resisted treatment; for though at first the disease seemed to yield in the usual time, yet a relapse occurred, but of such a mild nature, that I allowed the patient to be removed to the coast with the other members of the family, and thus, I am inclined to think, the treatment did not get fair play. The child's mother, indeed, continued the applications, and is convinced that they were instrumental in keeping the hoops moderate. On the whole, however, as the case was more protracted than the rest, I am willing to consider it a failure.

"In the fatal case which I have marked in the table, the patient was an infant of very delicate constitution, and only two and a-half months old. Yet the hoops, which at first were very violent and suppressed (dumb kinks), became mild, and ceased to occur for nearly a week, when, without assignable cause, convulsions came on, and the child sank, unable to resist their violence.

"It ought here to be remarked, as giving additional weight to the evidence afforded by the statistics of these cases, that they occurred in different countries, and at different seasons of the year. M. Joubert's cases were treated in France, and were spread over a considerable period of time. My own happened, of

course, in and around Glasgow, during all the variations which our changeable climate has undergone from 1848 to the present date; and in this time there has been at least one epidemic prevalence of the disease in more than usual severity.

"In contrast with the preceding results of the topical treatment of whooping-cough, I subjoin a table of the ordinary duration of the disease when treated in the usual manner, as stated by a few of our best and most recent authorities.

"Dr. R. Williams* states it at from two to four months, or more than a year.

"Dr. Copland† states it at from thirty-two days to five months, or more.

"Dr. C. J. B. Williams‡ states it at from six to ten weeks, or more.

"Dr. Walshe§ states it at from eight to thirteen weeks, or more.

"Dr. West|| states it at from eight to fourteen weeks, or more.

"MM. Barthez et Rilliet¶ state it at from one to three months, or more.

"Average of all the statements, from one and one-half to three and a-half months."

* * * * *

"But surely the numerical results just given prove, in a manner beyond all cavil, that the simple treatment which I have suggested is capable of cutting short the whooping-cough with as much certainty as quinia arrests an intermittent fever; and, moreover, that it renders the disease, while it lasts, both milder in type, and safer to the patient, than the most favorable circumstances of season or epidemic could possibly do."

Certain precautions are necessary in carrying out this treatment, and what these are the following quotations will serve to show:—

"In some cases of whooping-cough, an obstacle is presented to the topical treatment, by a state of matters which is, in other respects, by no means unfavorable to the patient. I mean the irritability of his stomach, which makes the slightest touch of the sponge in the throat the signal for violent retching, and vomiting if the stomach be full. I very often, therefore, find it necessary to prescribe for this symptom frequent small doses of heavy magnesia, combined sometimes with a few grains of the trisnitrate of bismuth. Such simple treatment seldom fails to mitigate the vomiting sufficiently to admit of the continuance of the topical applications.

"These applications should be renewed at least every second day; but if their commencement had been delayed till the disease is at its height, or if the whoops are very violent from the first, they should be repeated more frequently; and, for the reason stated above, the time of making them should be selected so as to have the stomach empty; and the patient should not be allowed to eat for an hour or two afterwards, else the feeling of rawness in the throat, which follows each application of the remedy, will be unnecessarily increased, and occasionally whooping and vomiting will be induced.

"In making these applications of solution of caustic to throats of children, everything in the shape of a formidable spatula should be dispensed with; and either a common teaspoon, or the index finger of the left hand, should be used. In all cases in which it is important to pass the sponge into the larynx, I consider it quite necessary to introduce the finger into the patient's mouth, and to touch with it the tip of the epiglottis, along the surface of which the instrument may be glided down with certainty to the rima glottidis. And if this proceeding be performed at once with firmness, few children either can or will resist it by struggling, or by biting the operator's fingers; but much patience and tact is sometimes necessary to school them to submission in the beginning of the treatment. After a few times, no more trouble is experienced.

"In the beginning of the disease, when the pharyngo-laryngeal membrane is

* Williams on Morbid Poisons, vol. i. p. 311.

† Dictionary of Medicine, pp. 236, 237.

‡ Library of Medicine, vol. iii. p. 94.

§ Walshe on Diseases of the Chest, pp. 418, 419.

|| Lectures on Diseases of Children, p. 279.

¶ *Traité Pratique et Clinique des Maladies des Enfants*, 2me édit., tom. ii. p. 624.

still in a state of catarrhal inflammation, the larynx ought not to be entered. The operator should be contented with applying the solution to the parts above the glottis; for, if he passes the sponge beneath that organ, he will induce a very severe spasm, which will frighten the patient, and rather hinder his future proceedings. But after the general inflammatory state has been got rid of, and when the disease has come to its height, the larynx must be entered, in order that the caustic may be brought into contact with the nerves, upon the excitement of which the continuance of the hoop depends. And, by this time, the upper parts have become so accustomed to the proceeding, that the spasm produced by it is of trivial intensity, and it is soon forgotten by the patient, while, on the other hand, its beneficial effects are marked and lasting."

(e.) *Spasmodic Asthma*.—In Dr. Watson's opinion, spasm of the glottis is one essential part of this affection, and ergo the necessity for topical medication to the larynx. Cases, also, are related, in which this kind of medication appears to have been attended with benefit. The treatment is not recommended in asthma depending upon emphysema.

(f.) *Stomach and Hysterical Coughs*.—In the chapter treating on this subject, several cases are related for the purpose of showing that the larynx is often chiefly at fault in coughs of this kind. Dr. Watson says that practitioners are too much in the habit of neglecting the condition of the pharyngo-laryngeal membrane, or of regarding it merely as a sign and token of disease elsewhere, and he thinks that it is often more correct to believe that the laryngeal affection, though it may have arisen secondarily, is a new disease, running a separate course, and demanding a special treatment.

(g.) *Laryngismus*.—Dr. Watson considers that considerable benefit might arise from topical medication of the larynx in certain cases of laryngismus, and that this plan of treatment might answer the same end as tracheotomy, and be free from the objections which are connected with that operation. He, also, relates three cases, two by himself and one by Dr. Horace Green, in corroboration of this opinion, which we subjoin, merely adding in so doing, that Dr. Watson does not appear to be aware of the analogous experiments which were performed on the lower animals by M. Brown-Sequard (v. *Abstract*, vol. xviii.) The cases are as follow:—

CASE 33.—Early in January, 1852, I was called to a young lady, who had for several years suffered very frequent attacks of epilepsy, and when I first saw her, she had but very short uncertain intervals between the fits. These were very severe; they were accompanied by laryngismus, and presented all the more usual characters of the disease in its most marked form.

Her bowels were thoroughly cleared out with croton oil, and the cold bath was used with good effect. The fits became less frequent, though almost equally severe when they did occur. The valerianate of zinc, and galvanism, were then added to the cold bath, and due regulation of the bowels. I now, moreover, began to touch the glottis with a solution of one scruple of nitrate of silver in an ounce of water. This was continued regularly every day for a fortnight, and afterwards for some weeks, with longer intervals between the applications. By the middle of February, the fits had quite changed their character, being more like short faints than regular convulsive paroxysms; and they have since then occurred very much less frequently. The patient has greatly improved in general health, and in activity of mind; and she has lost much of that dread of the disease which formerly rendered her existence miserable.

CASE 34.—A servant-maid was lately sent to me under the following circumstances: She had been strong and healthy till about twelve months previously, when she received a slight injury on the back, which frightened her considerably at the time, but did not seem to demand any particular attention; since then, however, she has almost every night been seized with a fit which her sister describes as follows: she awakes from her sleep, generally early in the night, with a crowing noise accompanying her breathing; she then becomes insensible and so powerless that she would fall, if out of bed; she foams at the mouth and clenches her teeth, sometimes upon her tongue, which consequently bears the marks of several bites; she comes out of the fit yawning, and complains of a severe headache, which continues during the following day. She

seldom takes more fits than one during the night, but has never had them in the daytime, except once when she had fallen asleep on the sofa.

Her expression, when she called on me, was very languid, her tongue was slightly furred, but she said her appetite was good, even unnaturally good, and all her other functions were duly performed. She complained of a dull, heavy pain in her head, and of listlessness and inability to do her work.

I consider this a mild case of epilepsy, complicated with distinct laryngismus, and I thought I could make out from the clinical history of the paroxysms, that they were much aggravated by the latter occurrence, viz, the laryngismus. Even many hours after the fit, and probably always, the laryngeal sounds were loud and stridulous, when heard through the stethoscope, and I doubt not that in this case fear of a fit might, when I first saw the patient, increase the contraction of the glottis, and thus cause the other phenomena of the paroxysm. For I believe this patient was hysterical, as most such patients are, and that the two diseases merged into each other by imperceptible, or rather, at present, undefinable degrees.

Her treatment was intentionally simple. She was already in the habit of taking a shower-bath in the morning, and a gentle laxative medicine every night. I advised the continuance of these means; and, in addition, applied the solution of nitrate of silver (40 grs. to the ounce) to the glottis daily for a fortnight, by which time the laryngismus had entirely disappeared. During the latter half of this period she was free of fits, though strictly watched, and she has not had any since. Only a few weeks, however, have as yet elapsed, and therefore I shall not be so sanguine as to think or state that her disease is removed; but it must be remembered, that the fits were nightly in their recurrence for months before the topical medication of the larynx was employed, and that its employment was the only change which was made on the judicious but unsuccessful general measures previously adopted.

The third case is communicated in a letter by Dr. Douglas, a brother-in-law of Dr. Horace Green:—

"My dear Doctor,—I take great pleasure in sending you an abstract of the history of an epileptic patient, as treated by Dr. Horace Green, of New York, while I was associated with him.

"The patient was a man over thirty years of age, and had been afflicted by this distressing disease for twenty years of his life, with the exception of two years when he was completely exempt from any attack, and when he confidently hoped he had entirely overcome the disease. This exemption followed the internal administration of nitrate of silver, which, by the advice of his physician, he had taken for several months continuously, and which, fearing a relapse, he had on his own responsibility continued, notwithstanding the caution of his physician, until complete discoloration of the skin took place.

"At the expiration of these two years the attacks recommenced. The patient was travelling, and met with a serious accident, which produced a great excitement and agitation in his mind. It was immediately following this excitement that the attacks reappeared.

"At this period the attacks were mild, and took place at long intervals, but increased in severity and frequency from year to year, until, at the time he came under Dr. Green's care, they had become unusually frequent—the poor patient suffering frequently five times, and seldom less than three times a day. His mind was completely shattered, and his memory so defective, that he was unable to recollect the commonest occurrences from day to day.

"The topical application of a strong solution of nitrate of silver to the interior of the larynx and trachea was proposed and adopted. At first no apparent difference in the frequency or severity of the attacks was observed. The cauterizations were, however, continued daily for several weeks, when the severity of the attacks seemed to diminish, serious paroxysms alternating with slighter ones. From this moment the condition of the patient became gradually and positively better. Attacks of all kinds were retarded for a period of ten days, when, for the three succeeding days, he would have two or three severe attacks each day, which would be followed by ten days of immunity. After two or three periods

of ten days, the intermission was extended to twenty days, and then to thirty, and finally months passed between his attacks.

"During the first two periods of ten days the applications were made daily, but after that time they were only made for two days previous to the time the attacks were expected, and until they had entirely ceased.

"When I left New York last June, the patient had passed nearly five months without having a severe attack; occasionally, however, he would feel a slight giddiness, and at such times he would have the application made, but even these symptoms were of rare occurrence. With this exception there has not been the least appearance of a return of the disease for many months. His strength of mind has returned in a great degree, and his memory has improved in a corresponding ratio; to such an extent, that he has been enabled once more to attend to his business, which he had been obliged to give up entirely.

"This case, of which the above is a mere outline, has been reported in full by Dr. Green, in the *New York Medical Gazette*. Not having the journal with me, nor any notes of the case, I have been obliged to furnish these few data solely from memory. Imperfect as they are, I trust they may contain sufficient of interest to induce further trials of this remedy, and may add, by their reference to the more extended report, an additional evidence to the value of topical medication in this form of disease."

(h.) *The laryngeal complications of Phthisis.* The conclusion respecting this part of the subject is—

"1st. That in cases of pulmonary tubercle the topical medication of the larynx may become necessary for, and is capable of curing certain morbid states of that organ, especially excessive nervous irritability, and actual inflammation or ulceration of its lining membrane; and, 2d, that by alleviating or curing these morbid states of the larynx, much distress may be saved to the patient, and time may be gained for the treatment of the pulmonary lesions and the constitutional disease.

"In all cases of pulmonary phthisis, the topical treatment of the larynx, if deemed advisable, should be begun with great caution, and more freely used only after the patient has become accustomed to it. If this general rule be not regarded, damage may be done; and at all events the patient will be so frightened as to resist its repetition. In very acute cases, and in chronic cases during an acute exacerbation of the disease, this kind of treatment is seldom, if at all applicable; but when the pulse is slow, and the fever moderate, it may safely be employed, and will, as formerly shown, do good in many cases. I may mention, in conclusion, that out of a very considerable number of phthisical patients treated by me, I have only twice been obliged to give up the topical applications; once from the acuteness of the pulmonary affection, and on another occasion from the indomitable retching which the slightest touch of the throat occasioned. The latter obstruction to the treatment may generally, however, be overcome by patience and the use of certain simple medicines for allaying irritation in the throat and stomach."

The conclusion from the whole subject unquestionably is that topical medication to the larynx is a remedy of great importance in *many cases in competent hands*, and that very great credit is due to Dr. Eben Watson for the very able and careful manner in which he now brings it fairly before the medical practitioners of Great Britain and Ireland, to whom we have much pleasure in recommending his work.

1. *Radical Cure of reducible Inguinal Hernia, after the method of C. W. Wutzer, M.D., Professor of Surgery in the University of Bonn.* By J. E. WEBER, M.D. (*New York Journal of Medicine*, Jan. 1854.)
2. *On the radical Cure of reducible Inguinal Hernia by a new Operation, with cases and remarks.* By T. SPENCER WELLS, F.R.C.S. (*Medico-Chirurgical Transactions*, vol. xxxvii. 1854.)

The object of these papers is to direct attention to Professor Wutzer's operation for the radical cure of reducible inguinal hernia—an operation which ap-

pears to be of far greater promise than any other operation which has yet been proposed for the same purpose.

Professor Wutzer's plan is to fill the inguinal canal by invaginating a portion of the scrotum or neighboring integuments into it, and to fix the invaginated portion in this position by means of adhesive inflammation. This he does by means of an instrument which enables him to regulate the pressure and the consequent inflammation, with great nicety. It is in the instrument, by which the end is attained, that the only novelty of the plan consists, and this we will describe first of all.

This instrument, which is called *invagatorium herniale*, may be understood by means of the woodcut at the end of this article.

It is necessary to have instruments of various sizes. For it is of great moment to have them to fit the inguinal canal accurately, so as to exercise a moderate distension.

The mode of using this instrument is thus described by Dr. Weber:—

"After the inguinal parts have been shaved, and the rectum and bladder have been evacuated, the patient is placed in the same position as in that for lithotomy. Then the instrument should be prepared for operating, by taking the plate apart from the cylinder (Fig. 1, *a* and *d*), and drawing the needle (Fig. 1 *c*) outwards, so that its point remains concealed in the anterior opening of the cylinder (*a*).

"The surgeon stands between the legs of the patient, and first reduces the intestine which fills the hernial sac. When this is accomplished he places the point of the index-finger of his left hand upon the scrotum beneath the external abdominal ring, with its palm-side directed upwards and outwards. He then pushes the elastic parts of the scrotum, which he has taken hold of, into the inguinal canal, so that the point of this invaginated cone extends a little beyond this internal abdominal ring. Then he bends his index-finger, which is thus far introduced into the inguinal canal, in such a manner that a small free space may exist between its palm surface and the upper surface of the canal, into which space he brings the point of the cylinder. By degrees the cylinder is slowly pushed in the oblique direction of the inguinal canal upwards and outwards, and at the same time the finger is drawn gradually backwards so that the cylinder may occupy the place of the finger. This manœuvre is not without difficulty.

"The invaginated cone returns easily with the finger, and the instrument is insufficient to carry back the cone to the desired position. Should the invaginated cone protrude the least backwards, it will then be necessary to renew entirely the before-stated manœuvre, and, to prevent a like occurrence, the cylinder, being reintroduced, must be more closely pressed against the finger. There are other difficulties in this procedure—viz., when the internal abdominal ring is small, preventing the cylinder with the finger from passing its entrance; in large and old hernias, it is still more difficult, because the cylinder may be carried into the loose cellular tissue between the superficial fascia and the aponeurosis of the external oblique muscle. This mistake cannot often be discriminated, and none but a surgeon who has a perfect knowledge of the surgical anatomy of the parts, and who is a careful operator, will easily overcome these difficulties.

"As soon as it has been ascertained that the cylinder properly fills up the inguinal canal, the needle (*c*) is then pushed through the integuments; no bleeding will follow, as the point of the needle is three-edged. The plate (*d*) is now joined, by allowing the needle to escape through its anterior opening (*n*). The staff (Fig. 2 *k*) through the posterior (*b*), and the posterior screw (*e*) in the forked hinge (*g*). By means of the screw (*f*) of the staff, the plate is moderately pressed down against the skin, fixing its position by means of the posterior screw in the forked hinge. The operation is now concluded by screwing off the handle (*b*) of the needle, and by covering the point of the needle with a small piece of cork. Under the scrotum a small pillow should be placed for its support.

"The patient should be confined to bed in an easy horizontal position, with flexed knees, and a pillow under them. The after-treatment should be directed

cautiously; on the one hand no impediments should be allowed to hinder a sufficient degree of inflammation; and on the other, the inflammation should be arrested when proper.

"A few days previous to the operation, it will be proper to direct an antiphlogistic diet, and after the operation to cause an increase of the natural evacuation from the bowels. An antiphlogistic treatment will not be necessary if the patient is quiet, and has no disposition to the inflammatory diathesis. The screw which presses the plate against the integuments of the inguinal canal can every two days be tightened, although prudence requires the plate to be lifted every time, in order to ascertain the degree of the existing inflammation. If the inflammation should be found to be more intense than was intended, either the pressure must be taken off or the instrument removed. Generally, it is not necessary to use the instrument longer than six days, which time is sufficient to produce the required adhesion between the invaginated parts and the hernial sac. If the instrument remains too long, instead of the required adhesion a disastrous suppuration and gangrene near the needle may be produced. In irritable individuals, six days may be too short, and in torpid, it may be too long a period.

"When the instrument is to be taken away, the plate must be first removed; the handle should be screwed to the needle, and then drawn out. The left hand has to fix the invaginated parts, the right hand must cautiously remove the cylinder. The small cavity remaining from the invagination must be filled with soft, dry lint, which should be held there by means of adhesive plaster. The suppurated punctured wound, on the place where the needle was, must be treated upon general principles; the patient must remain in bed, not only until the wound has cicatrized, but at least eight days longer, in order that the new adhesions may be greatly strengthened. In the inguinal canal a hard plug will be felt, which will be absorbed, and, after a lapse of some time, can scarcely be perceived. The radical cure is permanently established when the adhesions have taken place in the circumference of the entire inguinal canal. The hernial sac cannot leave the place into which it has been pushed by the invagination, as the needle has perforated it at two opposite points, and produced an inflammation between the serous surfaces sufficiently strong to secure at least, at those two points, firm adhesions. Wützer* considers it very important that his needle attack in this way the hernial sac, and thinks it very remarkable that Gerdy† (who also operates by invaginating the scrotum, for the cure of a reducible hernia, and who perforates also by means of a needle the invaginated scrotum at the highest place to which he has pushed it) should state that his needle never touches the hernial sac. Wützer says that it is contrary to the anatomy of the parts, and thinks that if it were really so, Gerdy deprived himself of the most important means to secure the success of the operation. Wützer recommends it as prudent, in order to strengthen the permanent nature of the cure, to direct the patient, as soon as the cicatrization is completed, to wear a slightly pressing truss during three months. This will prevent the invaginated parts, while new adhesions are yet fresh and tender, from coming down to their original place. During the same time, it will be advisable that the patient should not engage in any heavy work."

The following case, the description of which is taken from the *Organon für gesammte Heilkunde*, vol. i. sec. 1, was operated upon by Wützer after this method, and cured. It may serve as an example:—

Nicolaus Wolff, æt. 34, a farmer by occupation, had contracted an inguinal hernia on the right side three years before by lifting a heavy load. On the 4th day of October, 1838, he was admitted to the Surgical Hospital at Bonn, suffering from secondary syphilis, of which he was relieved after having undergone a strict medical treatment. After the lapse of a considerable time, that his health might be completely restored, it was resolved to try the above described operative procedure for the cure of his inguinal hernia. The man very willingly submitted to the chances of the operation, as he had already for some

* *Organon für die gesammte Heilkunde*; Bonn, 1840, vol. i. sec. 1.

† Schmidt, *Jahrbücher*, vol. xiii. 375.

time been unable to do any such work as his occupation peremptorily required. The cause of this was, that the inguinal canal and the abdominal ring of the affected side were so much extended and enlarged, that the best-fitted truss could not retain the contents of the hernia. For, after any severe exertion, a part of the bowels invariably appeared before the pad.

On the 8th of November, 1838, Wutzer, after having reduced the contents of the hernia, introduced his instrument in the way above described, pushed the needle through, and screwed moderately the covering plate against the cylinder. This procedure was quickly performed; the pain at the perforation of the needle was but momentary and slight.

The patient slept well during the following night, his pulse remaining quiet. On the 10th of November, there was slight pain, occasioned by touching the parts which were pressed by the covering-plate. The covering-plate was now a little more tightened. During the following days not the least symptom of fever appeared, no pain in the bowels, and consequently no indication for bleeding or any antiphlogistic treatment. On the 15th of November there could be felt a hard inflammatory swelling of the soft parts around the cylinder; at the same time suppuration had taken place where the needle had remained, and it appeared to be the right time to remove the instrument. After this had been done, the invaginated parts presented themselves entirely fixed, remaining as a firm plug in the inguinal canal. Where the needle had perforated the skin, the same was for a small space black and mortified, so that an opening was created, which allowed two probes, of which one was introduced at this opening, the other into the canal of the invaginated part of the scrotum, where the cylinder had been before, to meet each other. All the water injected into the external opening of the canal and invaginated parts flowed out at that opening, as there was now a perfect and free communication between these parts.

The patient continued to keep his bed until the 18th of November, when the cicatrization of the little wound was so far advanced as to allow him to sit up. In a short time, when the wound was completely healed, a slightly pressing truss was applied to the parts, and on the 29th of December the patient was discharged from the hospital perfectly cured, the most accurate examination showing no sign that a hernia had ever existed.

So far, the results of this operation appear to have been very satisfactory.

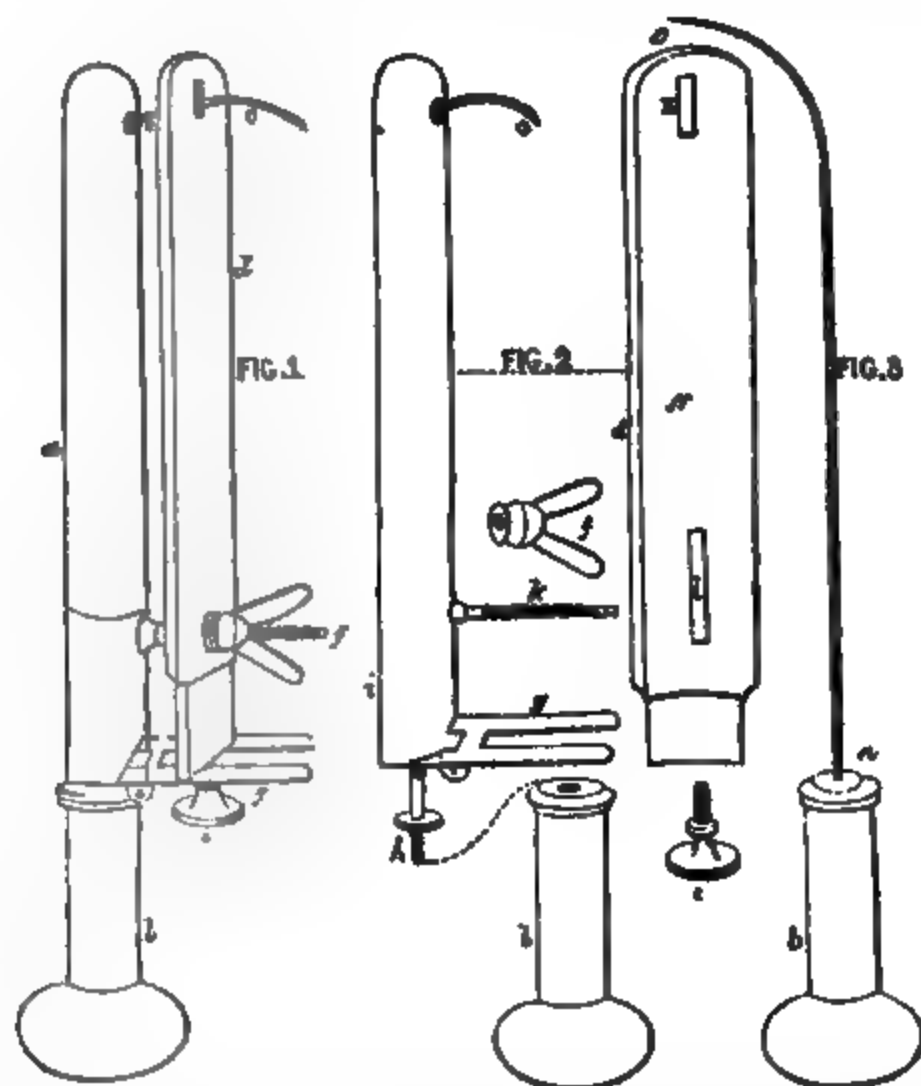
"When at Bonn, in the year 1850," writes Mr. Wells, "Professor Wutzer showed me two of his patients upon whom he had performed the operation, one only eight days before I saw him, the other about two years before. No unpleasant symptom had followed in the first case, which was going on well, and in the second a radical cure had been effected. In reply to a question I lately addressed to the professor as to the numerical results of his operation, he says: 'I am not able at present to give you the statistical results of all the cases upon which I have operated, as I have not time to collate them. I can now only say that, since the autumn of 1838, I have repeatedly practised my operation in the Klinik every session before many witnesses, and that I have never seen severe peritonitis follow it, still less any fatal result. All those operated on have not been cured. In several relapse followed, but this was traceable either to the patient's leaving off the truss too soon, or undertaking very hard bodily labor soon after the operation.' When at Vienna last year, Professor Sigmond informed me that he had performed the same operation nineteen times in the great hospital of that city, a successful result following in fifteen cases. In two cases gangrene of the integuments followed, and in two others relapse occurred after some weeks, but no death had happened. Professor Rothmund, of Munich, has published the result of his operations on the same plan in the hospital of that capital. He had operated thirty-five times in thirty-two cases, in two years and a half, and no death had followed. His results are almost uniformly successful; but I am informed by a gentleman who wrote to me lately from Munich, that these statements are not deserving of very great weight, as the patients were not watched long after the operation to test the occurrence of relapse."

Mr. Weber and Dr. Wells have also personal experience to offer.

"During the time that I held the appointment of Assistant-Physician to the Emigrant's Hospital at Ward's Island," writes Dr. Weber, "I had occasion to

try Wutzer's operation four times. Two of these cases were properly cured, one was relieved so that the bowel could be retained by a truss, and one was cured."

Mr. Wells tells us that he assisted Dr. Burmeister in performing this operation at Malta, in 1847. "Dr. Burmeister's patient," he says, "was a gentleman 28 years of age, who had suffered for about eight months from oblique inguinal hernia on the right side. The external ring was dilated, but the intestine had not descended into the scrotum. The inguinal canal readily admitted an ordinary-sized finger. The patient was strong and healthy. He objected very much to wear a truss. No dangerous symptom followed the operation. The patient remained in bed eight days, and was confined to his room a fortnight longer. He afterwards wore a truss for four months. It was then left off, and



EXPLANATION OF THE FIGURES.

FIG. 1 represents the complete instrument, called *Invaginatum Herniale*. *a*, cylinder, with its anterior end becoming smaller; *b*, handle of the needle; *c*, curved point of the needle, passing out of the anterior opening of the cylinder, and through the anterior opening of the plate, which covers the cylinder; *d*, the covering-plate itself; *e*, the screw which fastens the posterior end of the plate to the forked pedestal; *f*, the screw which presses down the covering plate against the cylinder; *g*, the forked pedestal, the slit of which receives the posterior end of the plate; *h*, a hinge unites a metal covering of the posterior end of the cylinder. The metallic parts of the instrument are to be made of a non-oxygenizing metal, with the exception of the needle, which should be of steel.

FIG. 2.—The instrument taken apart. *a*, The cylinder, made of box-wood or ivory, upon the upper surface of the anterior end is a small round opening, in which terminates a metallic canal, running through the middle of the cylinder, and made for the reception of the needle; *b*, handle of the needle; *c*, point of the needle; *d*, the plate, made of the same material as the cylinder; *e*, the screw which fastens the plate to the pedestal; *f*, the screw which presses the plate against the cylinder; *g*, the forked pedestal for the reception of the screw; *h*, the posterior end of the needle, with a metallic screw taken from the corresponding end of the handle (*b*); *i*, the metallic covering of the posterior end of the cylinder for fastening the pedestal (*g*) and the staff (*k*); *k*, metallic staff for the reception in the opening (*i*) of the plate; *l*, the posterior or oval opening of the plate; *m*, the anterior oval opening of the plate for the reception of the needle; *n*, the upper surface of the plate, a little convex.

FIG. 3.—The needle of steel, with its wooden handle. *a*, the posterior end of the needle, screwed into the handle; *b*, handle; *c*, curved three-edge point of the needle.

All of the figures are one-half the original size.

he had not had any recurrence of the protrusion a few months ago when I heard from him, upwards of six years after the operation.

"I have since performed this operation myself in two very similar cases; one in the year 1848, and the other in 1850. One patient was a naval officer, the other a groom, their ages being 18 and 20, and the hernia of recent formation, both oblique inguinal on the right side. Complete success followed, and although both patients were accustomed to very active exercise, no return whatever of the hernia has taken place."

This operation, perhaps, is not altogether without risk. Indeed, a case is reported as having occurred at Antwerp, in which the patient fell a victim to peritonitis. But this was a cachectic person, on whom the operation ought never to have been performed. There is no doubt, however, that in many cases the operation does what it professes to do; and there is also reason to believe that where it cannot effect a radical cure—as when the hernia is large and old, the canal obliterated, and the ring dilated—it will so far diminish the size of the ring as to render it possible to wear a truss with effect. The operation, indeed, appears to be one of great value; and the medical profession of America and England is under considerable obligation to Dr. Weber and Mr. Wells for having brought the subject forward.

Pathological and Surgical Observations, including a short course of Lectures delivered at the Lock Hospital, and an Essay on the Surgical Treatment of Hemorrhoidal affections. By Mr. HENRY LEE, Surgeon to the Lock Hospital, Assistant-Surgeon to King's College Hospital, &c. (8vo. Churchhill. 1854.)

This volume contains papers on various subjects, some of which are reprints of papers which have been noticed in former volumes of *The Abstract*. Of this number are the papers on the causes and consequences of inflammation of the veins, of suppuration in bone, and of long-continued pain in bone. Another, and very valuable, paper on the treatment of hemorrhoids, we have found it more convenient to notice in a former page of the present volume (p. 143). We must not omit to say, however, that these papers are not mere reprints, and we must especially notice that, in the introduction, Mr. Lee advances much additional evidence in support of his doctrine, that different morbid secretions have the power of determining stagnation and coagulation of portions of blood in the living body, and that in the portions of blood so separated, other changes may take place which may communicate irritation and inflammation to surrounding parts.

The great part of the contents having been thus anticipated, we are left to notice the short course of lectures on syphilis delivered at the Lock Hospital, and this we are very glad to do. We are glad to do this, because there is much novelty and sound sense in the views therein propounded.

These lectures, which are six in number, treat chiefly of the differences of venereal sores, of the manner in which the virus is introduced into the system, and of syphilization.

Mr. Lee divides venereal sores into two great groups—the *infecting* and the *non-infecting*, and he appears to have very good reason in this division.

(a) *The infecting sore is the true chancre of Hunter.*

"In this case, the infected part becomes callous and indurated, exuding from its surface a thin serous fluid during its early stages, and at no period furnishing a free secretion of well-formed pus until it has lost its specific character—until, in fact, it is undergoing the process of repair. Up to this time, the actions in the part are very sluggish; the appearance of the surface of the wound may undergo changes in color, depending upon the appearance or disappearance of successive crops of granulations; but the specific and peculiar induration so characteristic in this form of disease, remains for days, and sometimes for weeks, without any very apparent alteration."

This kind of sore is not accompanied by suppurating bubo, except in cases where there is a marked strumous disposition to enlargement and suppuration of the glands, or where the original sore has been irritated by too frequent cauteriza-

tions. The glands, as a rule, are but slightly enlarged; and "they afford the sensation of small circumscribed oval, or almond-shaped bodies, perfectly distinct from each other, unaccompanied by redness of the skin, which moves freely over their surface. It often happens that only one such gland can be felt."

And when, owing to the causes mentioned, the enlargement is greater, and runs on into suppuration, this suppuration is not specific. The matter is not inoculable. This somewhat startling statement is illustrated by a case occurring in King's College Hospital, which is this:—

"A patient, thirty-two years of age, applied on the 17th of October, with a large circular and indurated ulcer on the finger. It had existed, he stated, for four months, and was considerably larger than a shilling. Some well-marked syphilitic spots were appearing on his forehead and shoulders. He had never before had any similar disease, and had contracted his present affection, having exposed himself to contagion, after having burnt his finger with some quicklime. On the arm, above the elbow, and immediately on the inside of the biceps muscle, was an enlarged gland, over which the skin could be moved freely. In front of the biceps were two very small rounded masses, probably enlarged lymphatic vessels. On the 19th of October, a fine needle was introduced nearly through the largest gland on the inside of the arm. Had the gland contained any inoculable fluid, we must suppose that some of this would have been let out, and that it would have contaminated the surrounding parts. The patient was now admitted into King's College Hospital, where some of you had the opportunity of seeing him. On the 21st, two days after the puncture, no result had appeared from the experiment; and, on the 24th, there was still no result; nor has any appeared since that time.

"As far as this experiment goes, it tends to prove that which was before deduced from clinical observation, viz.: that the chronic enlargement of the inguinal glands, which accompanies an indurated chancre, does not depend upon the presence in those glands of any inoculable matter."

This sore owes its infecting characters to its indurated and callous base, and this may be easily understood. This base, indeed, is formed of a living fibrinous plasm in which the germs of the virus grow, and from which they pass into the blood circulating into the part, and thence into the circulation generally.

(b) *The non-infecting sore* is very different to the infecting sore.

"The changes produced in the inoculated part are much more rapid; we have not the same condition of parts, upon the first appearance of the disease, for two days in succession. The ulceration rapidly increases. It is surrounded by more or less inflammation, and the parts are generally painful. The surface of the sore presents an irregular and ragged appearance, as though it had been eaten away; the parts, of which it is composed, are in a state of continual change, the surface which may be seen one day has disappeared, or is disappearing the next; fresh parts occupy its place, which, in their turn, disappear in a similar manner. During the time that this action is going on at the seat of the primary disease, the glands in the groin, upon the affected side, will become painful, and the patient will complain of feeling stiff upon that side. In a day or two, the glands will be enlarged, and the pain will have increased. The skin covering them will then become red; and they now can no longer be distinguished as separate tumors, because the surrounding parts have become involved in the thickening. Within a few days from the first appearance of the swelling in the groin, the skin covering it will have assumed a deep red color, which gradually fades into the color of the surrounding parts. The inflamed structures are excessively painful, and remain so until the inflammation terminates in suppuration."

The suppurating bubo is almost a constant accompaniment of this form of the non-infecting sore. This suppuration, moreover, is specific in its character—at least, that part which proceeds from the gland itself.

"The pus which first forms, or at least, which first presents itself—which first points, is usually derived from the cellular tissue around the affected glands. This pus possesses no specific qualities; it cannot be inoculated so as to produce a syphilitic ulcer upon another part. But there is a fluid, more or less puriform

in character, which is derived from the affected glands themselves; this may, with tolerable certainty, be inoculated, and it will give rise to a characteristic pustule, identical in appearance to that which would be produced by inoculating the secretion from the surface of a common syphilitic ulcer. These two fluids, so different in their actions, can only be distinguished at the time when suppuration is first established. As soon as the matter within the gland becomes discharged, it mixes with the pus from the surrounding parts, and often renders the whole capable of being inoculated, and consequently the whole surface, exposed, becomes a syphilitic ulcer."

The virus, as virus, passes along one of the lymphatics from the original sore to the gland, as is proved by the fact that specific inflammation, and its consequences, may be produced at any part in the course of the vessel as in the gland. Mr. Lee insists upon the fact, that the virus rarely extends to lymphatic glands beyond those which are first in the series as regards the primary sore, and upon this ground he argues that the gland must have the power of eliminating or destroying the virus; but it seems to be as easy, if not easier, to suppose that the virus is destroyed in the destruction of the gland, as it is destroyed in the destruction of the sore under consideration, and in the two varieties of sore which have yet to be noticed.

These two other varieties of the non-infecting sore, are those in which the characters of suppuration and sloughing preponderate respectively. In the one the secretion from the first consists of well-formed pus, and the surface from which it proceeds is even and regular. There is no induration except that which belongs to a granulating surface. In the other, the infected part passes at once into mortification, or into that modification of this condition which is called phagedæna. *In neither variety is suppurative bubo present.*

Now the reason why these three forms of venereal sore are non-infecting, is this: They do not possess that indurated basis which is the formative nidus of the virus, and more than this, their process of destruction is so rapid that the virus has not time to become developed. Destroying the tissues with which it comes in contact, the virus itself perishes in the destruction for want of those materials and influences which would be supplied if the part continued to live.

But is it true that these sores are non-infecting? Mr. Lee supplies the answer. He says:—

"In looking over my notes of cases which have presented themselves at this hospital within the last year or two, I have collected together and arranged in a tabular form forty-nine consecutive cases of suppurating bubo. Of these, five only are recorded as having been accompanied, or followed, by any secondary affection during the period that they remained under observation. In one of these five, there was a distinct history of previous disease, both primary and secondary. In another, the cervical glands were enlarged, and the suppuration of the groin may, therefore, probably have been of a strumous character. In two cases, the secondary eruption was tubercular—an affection most obstinate in its nature, very liable to recur after having once disappeared, and comparatively seldom occurring as the first symptom of cutaneous disease. These, then, I regard, in all probability like the first of the five cases, as the result of some previous syphilitic infection. This analysis would thus leave only one case out of forty-nine in which a suppurating bubo was apparently even followed by secondary symptoms. In this exceptional case, the secondary eruption appeared a month after the occurrence of the bubo, and may, like the others, have depended upon previous disease.

"On the other hand, I have collected and tabulated in the same way thirty-one consecutive cases of secondary syphilitic eruption. In one only of these cases does the history afford any mention of a suppurating bubo, and in that one case the history is not satisfactory upon the point. Had the notes of cases of other years been collected and tabulated in the same way I do not doubt that they would have afforded similar results. Such facts appear to establish indisputably the proposition that the chances of the infection of the system in cases of syphilis are inversely in proportion to the degree of irritation and inflammation of the absorbent vessels leading from the primary seat of disease. As this doctrine may probably appear to many to be contrary to the opinions usually enter-

tained, I have thought it well for the satisfaction of others to collect some independent evidence on the point; and for this purpose I have used the register of the Lock Hospital, which is kept by the house-surgeons as they successively come into office. I find here recorded eighty consecutive cases of suppurating bubo. Of these, eleven are recorded as having had some other syphilitic affection besides the strictly primary disease during the time that they remained under observation. In four of these cases, this affection consisted in condylomata alone. In four, of a tubercular eruption, and in three of psoriasis. It is to be remarked that here there is an entire absence of any mention of the presence of lichen, or lepra, affections of the most common occurrence, at first presenting themselves after infecting syphilitic sores. The condylomata, especially when they occur in female patients, are of such doubtful origin that they cannot be received as affording any evidence of the affection of the general system, at all events as a consequence of the primary affections with which they are associated. Omitting, therefore, the case in which they have been mentioned as occurring without any other symptom of constitutional disease, we have seventy-six consecutive cases of suppurating bubo from all causes, and in these mention is made of secondary affections in seven only.

“The presence of secondary symptoms in this small proportion of cases may with justice be attributed to the recurrence of previous disease, and not to the primary affection which caused the suppurating bubo. This view is materially supported by the kind of eruption observed. In four out of the seven instances the eruption was tubercular, agreeing in this respect with the results obtained from my own case-books. The facts presented in both collections of cases, therefore, point to the conclusion that, in the comparatively rare instances in which secondary syphilis is found in conjunction with a suppurating bubo, that it depends upon the system having been affected previous to the disease which has given rise to that suppuration. The strongest proof, however, to my own mind, of the truth of this doctrine, so full of practical value, is, that having directed my attention to the subject for a considerable time, and having called the attention of the pupils to it both here and at King’s College Hospital, I have not been able hitherto to find a single case in which a primary sore had clearly given rise to a suppurating bubo, and, at the same time, to constitutional syphilis.”

It must always be remembered, however, that an infecting sore may become non-infecting, and that the system may have been poisoned before the occurrence of this change. It is of extreme importance to ascertain whether this has been the case, for, if not, we may neglect to give mercury in a case where it is necessary, which it always is in the infecting sore.

From observing the fact that there is least chance of constitutional disease where the absorbent glands are most affected, Mr. Lee is led to conclude that the absorbent vessels are not the channels by which the syphilitic virus usually effects an entrance into the system; and he devotes considerable time and ingenuity to disprove this doctrine of the Hunterian school. In order to do this, he enters into general physiological considerations on the subject of absorption, and in the end he arrives at the now recognized conclusion, that the blood-vessels are the active agents in absorption. Mr. Lee thus explains the process:—

“When syphilitic inoculation takes place in a healthy person, and the regular course of the disease is not interfered with, two distinct processes may be recognized; one, that by which the affected tissues become infiltrated with lymph; the other by which this effused matter is removed. This latter result may be accomplished by sloughing, by ulceration, in the natural process of growth, or by different modifications of these. But, beyond the parts immediately involved in these processes, other actions are going on of a more subtle nature, and not so easily appreciated by our senses. In the absence of more positive knowledge, we may ascribe these to the molecular changes in the nutrition of the surrounding parts. That such actions are in active operation beyond the parts where any visible or sensible change has taken place, may be readily demonstrated, although we may be unable to define their exact nature. Were this not the case, we should have nothing to do in the case of a primary syphilitic sore, but entirely to remove the ulcerated and indurated tissues, and the disease

would, as far as the part is concerned, be at an end. Experience proves that such is very far from being the case. When a syphilitic sore is removed by excision, as may readily be done when it is situated on the extremity of the prepuce, the cut surface will in a few days take on the specific action. This I have verified even when the greatest care has been taken not to allow any of the other matter from the chancre to come into contact with the cut surface. Such an action taking place in a part apparently healthy, at some little distance from the original sore, presupposes some antecedent change in the tissues in which it originates—a change produced by the infecting poison, but not capable of being appreciated so long as the diseased action had its development in its original situation. As soon, however, as the first centre of the morbid action is removed, a similar disease is induced upon the neighboring cut surface. The observation of such cases demonstrates the existence of a subtle morbid process beyond the parts at first sensibly affected, and necessarily producing some change in their nutrition.

"It appears under these circumstances much more in accordance with that which is known to happen in the case of the absorption of other poisons, to suppose that the blood circulating through the tissues in which these morbid actions are going on is directly influenced, than to refer the symptoms to the passage of the poison primarily through the absorbent system. When the constitution becomes affected in consequence of the inoculation of the vaccine or the variolous poisons, the lymphatic glands appear certainly to perform no essential part of the process. Few indeed have thought it necessary to invoke the aid of the absorbent system to account for the action of these poisons upon the animal economy, and I believe that it is equally unnecessary in the case of the poison of syphilis."

Mr. Lee devotes considerable attention to the subject of *syphilization*, and gives an excellent account of the various historical facts, which will be found in a former volume (volume xvi.); and we now recur to the subject only to notice Mr. Lee's individual opinion regarding it. This opinion then is not very clearly expressed. He is clearly not favorable to the practice, but he allows the facts contended for to a greater or less extent. He allows the statement of M. Auzias de Turenne, that syphilis may be communicated to the lower animals. He also allows that the system may be so far modified by repeated inoculations as to be to some extent insensible to further infection.

"A person," he says, "who has repeatedly contracted primary syphilis is in some measure placed under the same circumstances as a patient who has been repeatedly inoculated artificially; and we possess sufficient evidence, derived both from observation and experiment, to show that under such circumstances, the local disease is altered in its characters, and that no additional constitutional affection is likely to be induced."

For the same reason he thinks that the Portuguese, as a nation, are less sensible to syphilis as compared with the insufficiently "pored" English. Mr. Lee in no degree recommends the practice of syphilization, but he shows very clearly that it is less baneful than might have been supposed. He shows, indeed, that persons already suffering from syphilis, who are the persons on whom the operation of syphilization has been practised, are not likely to have their constitutions more impregnated with the virus, and for this reason, that in them, the operation of inoculation will invariably give rise to this non-infecting variety of the venereal sore.

In conclusion, we would cordially recommend these views to the attention of our readers.

1. *Practical Observations on the Operation of Lithotomy.* By JOHN CRICHTON, Esq., of Dundee. (*Medico-Chirurgical Review*, July, 1854.)
2. *On the Relative Merit of the two Operations for Stone; two Lectures delivered at the Royal College of Surgeons of England, May, 1854.* By F. C. SKEL, F.R.S., Surgeon to St. Bartholomew's Hospital (8vo, Churchill, pp. 55, 1854)

The paper and lectures which are here quoted claim very serious attention on the part of the practical surgeon. Mr. Crichton is the advocate of lithotomy,

and no one can have better reason for his preference, if long and successful experience be a reason for anything. He, also, has especial reason for his preference; for he shows that the operation may be performed with perfect success in cases where it has been supposed to be contra-indicated by the presence of organic disease, and where the patient has been allowed to linger long in his sufferings without any assistance. Mr. Skey, on the other hand, pleads very successfully in favor of lithotomy. He, also, does much to simplify this operation, and to lessen its inconveniences. Among other things, he points out a ready way in which the stone may be caught without the least possible injury to the bladder; and he shows that the symptoms of vesical irritation, which so frequently supervene upon the operation, are best dispelled by repeating the operation. In different ways, indeed, Mr. Crichton and Mr. Skey do much to extend the resources of operative surgery in a most distressing and frequently recurring malady.

1. Mr. Crichton's paper, which appears as an original communication in the *Medico-Chirurgical Review*, is possessed of very remarkable interest. It is sixty years since this gentleman first operated for stone; and in the interval he has operated in upwards of 200 instances with unprecedented success. Of this number, indeed, many of very unfavorable character, not one appears to have died as a direct consequence of the operation. Fourteen died at longer or shorter periods afterwards, but in every case death happened from concomitant diseases of the head, or thorax, or pelvis.

This remarkable success does not appear to have been owing to any peculiarity in the operation.

"Upon various occasions," writes Mr. Crichton, "I have been asked whether I employed any particular method or instrument in operating, which might account for the continued successful results; and if so, why not make it public? I could never say I had any particular method. But perhaps a short statement of the last case that occurred, and which is fresh in my recollection, may best serve as an answer. This took place on the 7th of May, this present year, in a delicate boy, eight years of age, who had been affected, more or less, with symptoms of calculus from his earliest infancy, but latterly his sufferings had become so extreme as to induce his parents to submit him to an operation for relief. After introducing the staff—which, I must say, was held most steadily in the proper situation by Dr. Arnott—I commenced the incision deep in the perinæum, by the side of the raphé, eight or ten lines in front of the anus, gradually lessening its depth as it passed between the anus and tuber ischii onwards to its termination; then introducing the forefinger of my left hand into the deep superior part of the wound, and pressing its point in front of the apex of the prostate, I pierced the urethra with the knife, and carried it onwards in the groove of the staff, directed and supported by the finger, so as to divide the prostate obliquely outwards, and downwards, nearly in the direction of the external wound. Next, feeling the stone with my finger, I withdrew the knife, and introducing the forceps, I withdrew the staff,—all which was the work of a few seconds. But a difficulty now occurred, for after grasping the stone, and attempting its removal, it slipped from between the blades. The same occurrence taking place after two or three seizures, I judged there must be something uncommon, and, withdrawing the forceps, I introduced my finger in order to ascertain the cause, and found the stone, as before, close under the opening, but extending farther backwards than my finger could well reach. Instead, therefore, of reintroducing the forceps, I made use of the scoop, passing it onwards till it reached the farther extremity of the stone; then insinuating my finger gently underneath the fore-end, I raised it up to the opening, and, with the bent end of the scoop behind, drew it easily forward, and in a moment the stone was in my hand.

"The boy made a rapid recovery, and soon acquired flesh and strength. Upon examination the stone was of an unusual shape, measuring four inches in its longest circumference, and one and three-fourths in its shortest. The two or three minutes occupied in manipulation with the finger and scoop was abundantly recompensed by the easy and safe removal of the stone, which, on ac-

count of its position and great length, could hardly have been accomplished by the forceps without breaking it or injuring the bladder."

Before operating at all—of his first operation, a most graphic account is given—Mr. Crichton read, and investigated, and cogitated, and in the end he tells us—"I got my mind disentangled from the conflicting opinions and directions of writers on the subject, and formed my own opinion;" and this undoubtedly is the rational explanation of his success.

The instrument used has been a gorget, modified by narrowing the breadth, and giving greater slope to the cutting edge.

"Latterly, however," he says, "in boys, and those who do not appear to have a deep pelvis, or enlargement of the prostate, I have dispensed with the use of it, carrying the same knife, after penetrating the urethra at the apex of the prostate, onwards, directed and supported by the index finger of the left hand, thus rendering the operation more simple in the saving of time by lessening the number of instruments, and enabling me often to have the stone in my hand within the minute.

"But, in those having a deep pelvis, with much hypertrophy of the prostate gland, rendering the bladder inaccessible to the finger, I think it most prudent to revert to the use of the gorget or probe-pointed bistoury."

Mr. Crichton says that he has experienced little difficulty in grasping and extracting the stone; and that he had only on two occasions been obliged to break the stone previous to extraction. He has never lost a case from hemorrhage, abdominal inflammation, or urinary infiltration; and—what is a curious fact—the wound healed by first intention in twenty-three instances.

These facts are all of great interest, but the fact which is of peculiar interest, and to which we invite especial attention, is Mr. Crichton's opinion and experience in reference to the performance of lithotomy under unfavorable circumstances. What this opinion and experience are will appear in the following quotations and cases—the cases being taken without selection from nine of the same kind:—

"Sir Astley Cooper says in his lectures," writes Mr. Crichton "If the bladder is ulcerated, do not perform the operation on any account, for it will not be successful. But especially never submit a patient to the operation for stone if there be the slightest affection of the chest—the least difficulty of breathing—any sign of asthma, or any irregularity of circulation. No person who has any regard for the safety of his patient or his own reputation as a surgeon, will ever operate for stone unless the chest be free from all complaint. You hear of one surgeon being exceedingly successful in the operation for stone, and of another less so. The cause of it is this—the one is careful to select his cases; he puts aside all those who have any other affection, and tells them to wait, and only submits those to the operation who are free from any other disease."

"Many practitioners are too ready to be swayed by such dicta, and, through fear of an unsuccessful result, allow their patient to remain unrelieved. But what is to become of patients suffering under stone, who happen at the same time to have these objectionable affections? Are they to be allowed to linger out a miserable existence in torture, without hope of relief, crying for death to put an end to their sufferings? For my own part, I have never been able to reconcile such doctrines with humanity or professional duty, but from the first have always operated upon every case that presented, whether considered by others favorable or not. Neither have I found my professional reputation suffer thereby. On the contrary, I have, in various cases, experienced the satisfaction of seeing affections which were considered insuperable objections to an operation gradually give way after the pain and irritation occasioned by the stone was removed. A few instances, from amongst a number of others, will serve to illustrate this."

CASE 3.—Mr. Peter Bruce, æt. 45, residing at Errol, was brought, in the month of May, 1817, to a lodging prepared for him, wrapped up in blankets, and lying on a bed suspended by its four corners fastened to the posts of a cart. His countenance was ghastly in the extreme, and his flesh wasted away to a skeleton. He had been suffering for many years under symptoms of calculus vesicæ, and had been visited by several medical practitioners from this town, as well as from Perth, who all agreed in opinion that no good could result from an operation, as

the urinary organs, particularly the prostate gland, were all in a diseased state. Issues in the perinæum and verge of the anus, and medicines of various sorts, were prescribed, but without benefit, and his friends were ultimately informed that his case was utterly hopeless, and could only be palliated by opiates. For the last six months he had, in a great measure, been confined to bed, being unable to sit upright, constantly straining to void his urine in great agony, and, to all appearance, was fast sinking. Hearing, from various quarters, that I had been very successful in the treatment of similar disorders, he became exceedingly anxious to place himself under my charge, and had himself conveyed into town in the manner mentioned. Upon examination the following day, besides detecting a stone, I observed a great bulging of the bladder, compressing the rectum in such a manner as hardly to admit the passing up of the finger. After soothing and cheering him as much as possible by the hope of a speedy relief to his sufferings, I, a few days afterwards, extracted a large rough stone, weighing upwards of six ounces, which he bore with great composure. He passed the remainder of the day and following night quite easy and free from pain, the urine coming freely and plentifully by the wound without straining, and on the morning he took his food with a relish and lightness of heart he had long been a stranger to, and went on so well as to find himself able, on the eighth day after the operation, to be removed in a sedan chair to a friend's house in the suburbs, where he enjoyed superior accommodation, and a green to saunter about in, until he found himself sufficiently strong to return to Errol and attend to business. About a twelvemonth afterwards, happening to be in that neighborhood, I called at his house, and found him looking so stout as hardly to recognize him. Both he and his wife received me with the kindest expressions of gratitude, withal setting before me a large dish of rich clotted cream, which they had heard I so much delighted in, and to which I certainly did all manner of justice.

CASE 4.—William Powrie, æt. 45, was conveyed from the parish of Liff to the infirmary here, having been for many years affected with dyspnœa, palpitation of the heart, frequent attacks of asthma preventing his lying down in bed, cold extremities, &c., at the same time suffering severely under symptoms of calculus vesicæ. He was detained in the infirmary two months, to ascertain if his sufferings could be any way removed by proper treatment, but the pain from the stone becoming still more urgent, and his other affections continuing unabated, it was decided to write to his friends to get him conveyed home as incurable. The poor man pleaded hard to be relieved from the stone, whatever might be the consequence, but the surgeon then in attendance still refusing to operate under such unfavorable circumstances, I offered to take the responsibility, which being assented to, I, on the 7th July, 1824, extracted a mushroom-shaped calculus with great ease by the lateral operation. He made a rapid recovery, and, what was particularly remarkable, after removal of the stone the objectionable affections gradually abated, and four weeks after the operation he walked home without assistance, a distance of five miles, in perfect health and spirits.

CASE 5.—James Richardson, æt. 45, was brought down from his residence in Perth by the steamboat, bearing a letter from several benevolent persons there, recommending him to my care, and stating that they would be answerable for any expenses incurred. I went down with the messenger to the boat, and found a poor, emaciated, ghastly-looking object straining, with agonizing pain, to void his urine. I desired he should immediately be conveyed up to the infirmary; and learned from him that, eleven years ago, in consequence of a fall from a height, he had been affected with severe pain of the back and left side, accompanied with bloody urine, which confined him to the house for several weeks; since which period, he had several attacks of the same complaints, with the addition of passing quantities of sand and small stones to the amount of two hundred and seventy-five, many of them the size of large peas. He had also inguinal hernia of both sides, with cough, expectoration of muco-purulent matter, dyspnœa, to such an extent as often to prevent his lying down in bed; and for the last twelve months had been suffering under symptoms of calculus vesicæ, which of late had been beyond endurance. Notwithstanding all these unfavorable accompaniments, I considered it my duty to operate, and on the 24th July, 1824, I easily extracted a rough, flat stone, weighing nine drachms, by the lateral

operation, and two months afterwards he went home in great spirits, quite cured of all his calculous complaints, and nearly free of the affections of the chest. The following year, happening to be on a professional visit to Perth, he recognized me in the street, and told me, that soon after leaving the infirmary, he felt himself able to resume his occupation, and had never been a day off work since.

2. Mr. Skey's lectures are occupied with a comparison of lithotomy and lithotrity, in which the advantages are shown to belong to lithotrity, when the two operations can be put in comparison. Lithotomy is certainly the more dangerous operation of the two; and this fact is urged as the great objection against it. Lithotrity is less dangerous, and more easy of execution than is supposed, and hence an additional reason in its favor.

We do not quite understand whether Mr. Skey would abandon the knife altogether in operations for stone, except in peculiar cases—*as*, where it is necessary to extract a piece of a lithotrite which has broken off in the bladder, and so on. He would not use the lithotrite when he had to do with a very large stone; where symptoms of vesical or renal disease were present; where the urethra was insufficiently dilatable; or in the case of children, but he does not say very plainly what he would do under these circumstances. He says, "if the stone be present with these indications, if relief must be obtained, it is preferable to resort to lithotomy, because it presents the better prospect of a successful issue."

It is not necessary that we should follow Mr. Skey through the long catalogue of evils connected with lithotomy, the whole of which is very generally known; or that we should labor to remove from lithotrity the several charges which are really due to the want of dexterity in the operator, or to his having undertaken the operation in unsuitable cases; and we will therefore pass to the operation itself, and to one or two points in the preliminary and after treatment, which have struck us particularly. In doing this we would direct especial attention to the mode of catching the stone, and of treating that vesical irritation which comes on so frequently after the operation, for, unless we are mistaken, these are two points of extreme practical importance—points which, if attended to, will do much to obviate the inconveniences of the operation, and remove the objections that at present apply to it.

"The operation," writes Mr. Skey, "may be undertaken in a sitting or a bed room. If in the former, the patient may be placed in a nearly recumbent position, on a sofa or on an easy chair. Yet these are both objectionable. In operative surgery, we are too prone to be indifferent to the comfort and convenient position of ourselves, our operating tables are too low, or too high, or too broad. In a protracted operation no evil to the surgeon can be greater than a low bed or table. Ease of position is a great desideratum to the surgeon. The objection to a sofa or an easy chair is partly of this description, and partly that of want of length. If a sofa, with the patient lying lengthwise, the operator is in a false position. All the trunk, from the dorsal vertebrae downwards, should be horizontal, and, indeed, a small firm pillow under the pelvis is often desirable. There is no support, in my opinion, superior to a four-post bed, across which the patient should be placed, with his pelvis brought to its edge, and his back supported on the inclined back of a chair, the upper bar of which should reach to his loins, and between which and the chair so reversed, a pillow may be interposed, the legs separated, and each foot supported on a chair. At the first operation the presence of an assistant is desirable. A large-sized catheter is introduced into the bladder. The advantage of a large catheter is that of fully dilating the urethra, and thus of admitting the lithotrite with less effort. Warm water of about the temperature of 98° should be slowly injected to the extent of four or five ounces. If there be a tendency to expel it, a cessation of a minute should be permitted, and then resumed. If time be thus given, the bladder will rarely fail to retain the requisite quantity, and the expulsive efforts will rarely continue after the lithotrite has reached the bladder. This instrument is now passed as gently as the force for its introduction permits, the penis being forcibly drawn up over it. When the angle reaches the entrance of the bladder, and the shaft lies nearly horizontally in the hand, some force is required to complete the

introduction, in consequence of the want of adaptation of the curved urethra to the straight instrument, but it is not painful.

“Under ordinary circumstances, unless the penis is unusually retracted, nearly the entire shaft up to the screw apparatus, should be lost to the view, and then, and not till then, will the instrument move readily in the bladder. The blades are expanded by the thumb, when the transverse bar or lever is unscrewed to the end and fixed by the nut. In opening the blades, this rule appears to me important, to make each blade move equally from the centre between them, pressing the instrument forwards at the same instant that the near or convex blade is withdrawn. By this movement we avoid the painful pressure of the instrument against the neck of the bladder. If the neck of the bladder is touched by the blade, a start or a movement, and an expression of suffering, invariably follows. The stone is now to be caught by the lithotrite; but in what manner? There is but one mode compatible with safety, and which is not only the safest but the surest. The instrument is not to be employed as an explorer to follow the stone to its hiding-place in the bladder, but the stone should be brought to the instrument. If we would avoid danger, or at least so near an approach to danger as is comprised in the liability to seize the mucous membrane of the bladder, we should rigidly follow this important rule of action. It must be obvious that to protect this delicate organ from injury, the quantity of fluid I have proposed to inject is perfectly inadequate, if we are to carry the point of the instrument in all directions, twisting it to the right, then to the left, and then round to the back. I am persuaded that four or five ounces of water is all that the majority of bladders, so conditioned, will contain; and double this quantity is scarcely sufficient for perfect safety unless this rule be strictly observed.

“If, on having expanded the instrument, the lower blade be pressed downwards towards the rectum, by the elevation of the handle, the bladder will assume a conical form, the apex of which is directed downwards. Into the apex of this cone the stone will fall *three times out of four*, and; I believe, I may say in a yet greater proportion. I have myself caught the stone on one occasion ten times in succession, and I have repeatedly fixed the stone nine times, the blades being expanded and closed twelve. No action can be more simple, or more easy of execution. If the stone adhere to the coats of the organ, or if it fail, from any other cause, to fall into the concave blade, a slight shake of the instrument, or, what is less annoying to the patient, a slight shake given to the pelvis with the open hand, will generally succeed.

“This mode of catching the stone is really so important as to be worthy repeated experiment on the dead subject, during which the remote blade should be pressed with moderate firmness against the bladder where it is in contact with the rectum, while the near blade is drawn out to the greatest capacity of the instrument, if the size of the stone be uncertain, and less so as it becomes reduced in size. We are indebted to the late Mr. Fernandez, jun., for the original invention of this form of successful manipulation. I consider it a sound principle, and I will go so far as to say that, unless it be adopted or superseded by a better, yet unknown, every other mode of seizing the stone is less safe, less simple, and less expeditious.

“When the stone is caught, the lithotrite should be screwed home. In the case of a person advanced in life, or with a large stone, or with an irritable and intolerant bladder, or where the operation has been painful or protracted, or there is an oozing of blood from the urethra when the stone is once broken across, the instrument should be withdrawn. If the converse of these circumstances prevail, it may be caught twice or thrice, but not more. Two minutes is time sufficient for the entire operation. The patient should be desired to retain the horizontal position, and be left perfectly quiet. No effort should be made to obtain the expulsion of the injected fluid, and, indeed, it would be needless, for the bladder, for the most part, is incompetent to the task. Some hours will probably elapse before the fluid is evacuated, and we shall not be disappointed, if no fragments accompany it. This is generally the work of the second, third, or fourth day.”

One especial evil connected with the operation of lithotrity is its painfulness;

another is the vesical inflammation which is so apt to follow subsequently ; and upon both these points Mr. Skey gives some very valuable information.

Opium and care will do much to prevent and subdue the pain.

"It is not often that the pains are so severe," he says, "as not to be held greatly in subjection by the employment of opiates—an agent almost contra-indicated in lithotomy, at least as an anæsthetic agent; and this fact expresses all that I need say with respect to physical pain consequent on the operation, while we always possess the alternative of chloroform for the operation itself, if required."

If the pain has been unusually severe during the operation, the instrument, in all probability, has not been pushed far enough, and, on expanding, it crushes the sensitive neck of the bladder; and this pain, therefore, may be avoided by care. We would also add, that pain would be much less likely to happen, if the sensible plan of not putting the patient upon an antiphlogistic regimen, which plan is inculcated by Mr. Skey, were always carried out.

The last quotation which we shall make, refers to the *inflammation of the mucous membrane of the bladder*, which is a frequent consequence of lithotrity, and to this we wish to direct especial attention.

"This inflammation," says the author, "is of far more frequent occurrence than the inflammation following lithotomy. It may follow the first, or any subsequent operation; and so far as my experience goes, it occurs, in some degree or other, in the majority of all cases operated on. But in this form of inflammation we see the extent of the evil. It appears circumscribed. It does not extend to the other tissues of the bladder. It is chronic, and not acute. It is attended by a certain amount of pain, often trifling in degree, by frequent micturition, indicating intolerance of the organ, and a certain well-known ropy, viscid discharge that separates from the urine, and adheres to the vessel into which it is conveyed. The intensity of the disease is determined by the quantity of this mucus, and, in case of positive severity, it is occasionally tinged with blood. When it presents this feature, the pain is permanent, and often severe, and the intolerance is great. In this condition the subject of the operation may reasonably claim a large amount of sympathy. It is a curious and important fact, that these symptoms often subside immediately on the repetition of the crushing operation, as I first learned from Sir B. Brodie, and of which fact I have subsequently witnessed many examples, among which I will cite two. I broke a stone in the bladder of a stout gentleman aged about 63. Chronic inflammation followed, attended by intolerance of urine, continued heavy pain in the bladder, immense quantities of viscid and ropy mucus, always more or less tinged with blood. Sometimes for days together the quantity of mucus exceeded that of urine. He lost appetite and sleep. His health sank, and I anticipated a fatal result. In this condition, more or less aggravated, he continued for months, in spite of the employment of every remedy I could devise. By the advice of Sir B. Brodie I repeated the operation. The above symptoms subsided within twelve hours, as if by the agency of a charm, and the patient ultimately recovered without any return of the catarrhal affection of the bladder.

"I broke a stone of a moderate size in the bladder also of a stout gentleman, aged about 60. Nothing could be more simple than this operation, which, as he assured me, was far less painful than the contraction of his bladder, had frequently been on former occasions. For two days he passed little stone, on the third day he began to experience frequency of micturition, accompanied with more or less of pain and discharge of ropy mucus, but not discolored. He resumed his bed, and felt constitutionally ill. He obtained little benefit from treatment. After four days of somewhat severe suffering, with the recollection on my mind of the former case, I repeated the operation, and his pain subsided directly, while his urine resumed its healthy character. On the strength of facts like these, one is almost inclined to doubt the correct pathology of this curious disease, and to ask: Is this truly inflammation of the mucous membrane? Of this condition of the bladder, be it what it may, we have, as I have already said, the frequent occurrence, and we call it inflammation. Possibly, it is truly so. But, whether inflammation or not, it will never be denied by the practised lithotritist, that it often subsides on the repetition of the exciting cause, and it

may be safely asserted that it rarely reaches the level of an intensity incompatible with the perfect recovery of the patient."

In conclusion, we would recommend Mr. Skey's lectures to all those who are wishful to make up their minds as to the relative merit of the two operations for stone.

1. *Case of Amputation at the Knee-joint.* By G. M. JONES, Esq., Surgeon to the Jersey Hospital (*Medical Times and Gazette*, June 3, 1854).
2. *On Amputation at the Knee-joint.* By H. G. POTTER, Esq., Surgeon to the Newcastle Infirmary (*The Lancet*, May 27, 1854).
3. *Clinical Lecture on Amputation at the Knee-joint.* By W. FERGUSON, F.R.S., Surgeon to the King's College Hospital (*Medical Times and Gazette*, July 8, 1854).
4. *Disarticulation du Genou.* Par M. MAISONNEUVE, Chir. à l'Hôpital Cochin (*Gaz. Médicale de Paris*, Sept. 2, 1854).

It is a curious fact that three English surgeons, and one French surgeon, should have amputated at the knee-joint during the last twelve months. It is less remarkable in France, where the operation first revived, but in this country, where the operation has scarce been performed at all, it is very remarkable. It seems, indeed, to argue a change of opinion, which requires attention.

Amputation at the knee-joint had become an obsolete operation when Velpeau called attention to it, and adduced facts and arguments to show that it was no more dangerous than amputation of the thigh, and that the patient was left in the better predicament of the two. This was in 1829. The operation, however, has met with little favor, especially in this country. Chelius mentions 37 cases, of which 22 were favorable. Four published cases have occurred in this country; two (the first two) by Mr. Syme,* one by Mr. Ferguson,† and one by Dr. Williams,‡ and these three did well, and the fourth lived some months after the operation. Other cases, however, have occurred which have not been recorded. Mr. Ferguson says he has frequently performed it.

It would appear that amputation at the knee-joint is less fatal than amputation of the thigh. Referring to some of the particulars already stated, Mr. Potter says, "If we compare this proportion with the average frequency of death in amputation of the thigh, which has been often stated to be from fifty to seventy or seventy-five per cent., we find, even if we take the lowest average, that the result is by no means in favor of amputation of the thigh, and certainly there is nothing to call for the utter rejection of the one, and universal adoption of the other operation."

The patient, also, appears to be in a better predicament than he would be if the thigh had been amputated in the ordinary way. Thus, Mr. Jones thinks that his case "proves that great advantages result, as far as concerns progression, in this mode of amputation; there is not such an amount of lateral and outward motion required; the limb does not in walking describe the semicircular curve which one so commonly remarks in amputation higher up; the gait is more that which follows on ankylosis of the knee-joint; the limb is brought more directly forwards and backwards by the rectus and posterior extensors; the walk is consequently more firm and assured, and, as far as the trunk is concerned, there is not the same demand for compensating muscular power in steadying and balancing the body, such as one finds in a greater or less degree in different persons. The deduction, therefore, to be drawn from this case is, that a patient is evidently benefited by preserving as great a length of femur as possible."

With these remarks, we proceed to relate the cases under consideration in the order of their occurrence:—

1. *Mr. Jones's case.*—John Stokes, æt. 35, a strong, muscular, and healthy-looking man, was admitted into hospital on the 8th of October, 1853, in consequence of a comminuted fracture of both bones of the right leg, occasioned by a kick

* *London and Edinburgh Monthly Journal*, 1845.

† *The Lancet*, 1845.

‡ *Monthly Journal*, 1846.

from a horse; there was a considerable lacerated wound about three inches above the internal malleolus, through which near two inches of the tibia protruded. The hemorrhage at the time of the accident was very profuse. Taking into account the man's strength and previous good health, and his sober and regular habits, it was considered, that, although immediate amputation might be the most prudent course to follow, not only on account of the nature of the fracture, but also from the injury the soft parts had sustained, still that it was a case in which an attempt to save the limb was nevertheless justifiable. The projecting portion of bone which completely opposed reduction was, therefore, sawn off, and small fragments removed. This allowed the fibula to be more carefully examined; it was fractured obliquely, and presented several loose splinters. These were removed, as also others partly imbedded in the surrounding soft textures. The leg was then placed in position, and the fracture reduced, the external wound closed as much as possible, moist lint applied, and only just sufficient appliances as were absolutely necessary to keep the limb in position. For the first four days there was but little constitutional disturbance; on the fifth, several shivering fits came on, attended with considerable restlessness and pain, much thirst, and coated tongue; pulse 110. Phlegmonous erysipelas had evidently set in from the fracture to the knee. Constitutional remedies, local applications, incisions, &c., were had recourse to. On the 16th, the suppuration was of a most unhealthy and offensive character, and escaped through the wound in immense quantity; the whole leg, every here and there, had a purple appearance, and was covered with livid vesications. On the 17th, there was great suppuration of the cellular tissue. On the 18th, the subcutaneous and intermuscular suppuration of the upper part of the leg was more abundant than ever; several sinuses, running in various directions, were discovered by means of a bougie. A counter-opening was made in one, half-way up the other side of the leg, and which evidently communicated with the others. From the 18th to the 22d, the appearance of the leg had become much more unsatisfactory, the swelling flaccid and quaggy, ill-conditioned pus welling out of the original wound, and from the counter-opening, in a stream when the parts were pressed on. Sinuses had extended from the counter-opening full four inches above the popliteal space. Notwithstanding this immense drain on the system, and the unfavorable aspect of the fractured limb, the constitutional symptoms did not by any means keep pace with the local affection; the pulse numbered less than 100, remained soft, and moderately strong; tongue moist, and but little coated; bowels regular, and urine natural. Under these circumstances, it was deemed advisable to lay the entire sinus open,—a similar procedure (on a former occasion, and in a case not very dissimilar to this one) having proved of essential advantage. It was, therefore, opened throughout its entire extent. The wound thus made measured upwards of two feet; more than a pint of fetid pus was by this means evacuated; it flowed from all parts. There was considerable hemorrhage, and one small vessel was secured, a fragment of bone removed, and some sharp splinters taken from the upper part of the tibia. The patient, during this part of the operation, became excessively weak, and was almost pulseless. From the 20th November to the 8th the slow but gradual improvement which took place gave rise to the hope that a favorable termination might be expected; there was a healthy granulating surface throughout the wound; the suppuration, since opening the sinus, had been very trifling, and of a healthy character, and the limb remained in a very fair position. Under these circumstances, however, diarrhœa set in, together with well-marked hectic symptoms. The original wound became dry, and its surrounding parts assumed an ashen color; the foot was œdematous, and the whole of the integuments of the leg appeared completely detached from the bones. As amputation below the knee was not warranted, on account of the state of disintegrality the soft parts were in, the removal of the limb at the joint was determined on.

Operation, Nov. 10.—As the greater portion of the integument covering the patella had suffered materially from erysipelatous inflammation, it was thought advisable to remove as much of it as possible; consequently an incision, which commenced just over the internal condyle, was carried, in a semilunar form, over to the opposite one, where it joined, in a transverse direction, a part of the

sinus laid open three weeks before, and, for the reason just mentioned, its concavity was made to touch the superior edge of the patella, the upper attachment of which was next divided while the knee was bent. The knee was again straightened, and the knife, introduced at the point where the first incision commenced, was carried downwards a considerable way along the edge of the tibia, then brought across the calf in a lunated form, and carried upwards along the side of the fibula until it met the extreme point already mentioned; the knee again forcibly bent permitted the different ligaments of the joint to be easily divided. The fore-finger and thumb of the left hand were then used as retractors for the already divided integuments, while the palm, thrust through the soft textures of the under part of the joint, followed them, and thus completed the flap. The cartilaginous surface was next removed, and other portions pared off. But two vessels required ligature. The parts were now brought together, and kept so by means of sutures; and pledgets of lint moistened with cold water were applied to the stump.

The hemorrhage during the operation was very trifling. The patient was, however, removed from the operating table in an alarmingly weak state, and continued so for several hours after, so that powerful stimuli had frequently to be given, and hot-water bottles applied to the extremities.

During the recovery, which was both tedious and protracted, the same plan of treatment was, with slight deviations, followed out. The local treatment consisted principally of the water-dressing and moderate pressure applied either by adhesive plaster or bandage. The system was supported throughout by the most nutritious diet. For two months the patient was allowed one bottle of port wine and two pints of porter per day, and had quinia, &c., given in large doses. For upwards of a fortnight after the operation, the patient's extreme debility gave rise to well-grounded fears that death would soon terminate his sufferings; and, as may well be supposed, the appearance of the stump during this anxious period, was anything but satisfactory; the stomach, however, never once rejected the food given, even when most disinclined to take any. This one happy feature in the case was naturally soon followed by an improvement in his health, so that at the expiration of six weeks all fear with regard to a favorable termination was at an end. On the 20th February the stump was healed (it might almost have been considered so some time before), and the patient was able to move about on crutches.

The entering so fully into the details of this case prior to the operation, may at first sight appear unnecessary. My motive is to show, that the low, debilitated state the patient was in would in all probability have retarded recovery quite as much had amputation been performed through the continuity of the thigh as at the knee-joint. The time taken in effecting a cure must not, therefore, be considered as prejudicial to the operation.

The man has now a most serviceable stump, upon which he can bear the weight of his trunk in progression. A good firm cushion of muscular and integumental structures covers the extremity of the femur; it can be manipulated without the least pain. The posterior flap, formed out of the muscles of the calf, and which was brought up to cover the condyles, has united to the anterior one, and the line of their union is two inches above the extremity of the bone. The internal condyle is abundantly covered with soft structures, the external not so completely, the greater prominence of this part being in some degree apparent through the cicatrix; with this exception, the stump may be considered a perfect one; practically, I have no doubt it will, in time, prove such.

Mr. Potter's Case.—Harriet S. æt: 40, was admitted into Newcastle-upon-Tyne Infirmary on the 8th of December, 1853. She states that about twenty years ago she knelt upon a small stone, which gave her great pain in the knee. From that time until about six months ago she had severe pain, at intervals, in the joint, but was not laid up. During the last six months she has been confined to bed, and though everything seems to have been tried which was likely to do good, the disease increased, and the leg became more and more flexed until, as at present, it has reached the utmost degree possible. Any attempt at extension gives intense pain; some tortuous sinuses run down to the bone; and there is

every symptom present which indicates ulceration of the cartilages. She is very thin and hectic, and is extremely anxious to have the limb removed.

Operation. Dec. 13.—An incision commencing a little above the middle of the external condyle was continued across the knee, round the upper half of the patella, to the middle of the inner condyle, and ended a little above it. This incision separated the patella from its superior attachments, and opened the joint. The ligaments were next divided, and the saw introduced behind the condyles, which were with the greatest facility sawn through. The knife was now placed behind the joint, and a full-sized flap formed from the back of the leg. No difficulty was met with in any part of the operation, and the flaps came nicely together, in which position they were retained by sutures and plaster. Chloroform was successfully administered.

On examining the joint after removal, the cartilages were found to be ulcerated, and the synovial membrane pulpy.

Dec. 14th. There is a remarkable change in the countenance this morning. From the time she entered the hospital, until to-day, she has had a very haggard look; now, however, the countenance has assumed a placidity which contrasts very favorably with its previous disturbed appearance. The pulse is quiet and regular, and she rested well during the night.

From this time the case went on well, the flaps united by the first intention, the patient acquired strength and flesh, and was discharged cured on the 17th of March, 1854.

Should I again perform this operation, I would remove the diseased synovial membrane from the upper flap, because I feel convinced that this diseased structure was the cause of a discharge which continued much longer from an old sinus than would have been the case had the synovial membrane been removed.

Mr. Fergusson's Case.—W. M., æt. 11, is a native of Sydenham, and states that he has always had remarkably good health up to the time of his present illness, which began six weeks ago. After having been out sliding the whole of one day, he came home in the evening complaining of pain in both legs, more especially in the right knee, upon which he had fallen in the course of the day. In a few days after this he was seized with shivering and violent deep-seated pain in the right leg and ankle-joint, which was followed by considerable swelling of the limb, commencing at the ankle, and extending up to the knee-joint. The integuments appeared red, as if erysipelatous. His sufferings now became excruciating, more particularly if pressure were made on the limb, or if he attempted to move it. Notwithstanding the active measures employed by his own surgeon, the inflammation continued to increase, and matter formed, which soon became discernible in the soft parts. An incision was consequently made on the outer part of the ankle-joint, and about a pint of pus evacuated. A few days after this another puncture was made in the upper part of the leg, and more matter was discharged. During this time his general health had become much impaired, and he became extremely emaciated.

When admitted into the hospital, January 25, 1854, Mr. Fergusson made an accurate examination while the boy was under the influence of chloroform, and found the knee-joint much diseased, the surfaces of the bones being rough and denuded, and a considerable collection of matter in the upper part of the leg, which was evacuated.

The patient was supported by stimulants for a few days till his health was deemed sufficiently good to bear the shock of an operation.

When placed on the operation-table, under chloroform, a small opening was made a little above the knee, and a quantity of unhealthy pus evacuated. Mr. Fergusson then performed the operation of amputation at the knee-joint in the way detailed in his own work.

The state of the bones of the leg clearly demonstrated the necessity of their removal. A section being made of the tibia, the cancellous tissue of the upper part of the bone was found filled with pus, while that tissue at the lower part was necrosed, and the epiphysis separated. The articular cartilages of the ankle-joint had ulcerated, and the ends of the bones were eroded. The articular

cartilage on the head of the tibia was so soft that a probe passed readily through it, and the bone was bare and carious in several spots, especially around the articulation with the fibula.

The patient rapidly improved, and was discharged cured March 11, 1854.

"As to the mode of performing the operation," Mr. Fergusson continues, in another part of the lecture from which this case is taken, "I first make a small anterior flap, drawing the knife across the front of the joint, and then, inserting the point of the blade behind the femur, thrust it through to the other side, close to the condyles; then, carrying it downwards, cut the posterior flap from the calf of the leg. The saw is then applied a little above the condyles, and the flaps brought together as in an ordinary amputation.

"In some instances I first effect the separation of the leg at the articular ends, and thereafter cut away as much of the femur as seems needful. In all cases it is requisite to take the full length of the calf for the posterior flap, as the soft parts in the back of the thigh contract very much in the course of time. The patella might be saved in some examples, but in general I think it would be best to remove it."

M. Maisonneuve's Case.—Augustine Ninot, æt. 22, was admitted into the Hospital Cochin, on the 1st of March, 1854. She was suffering from a voluminous tumor of the superior and outer side of the left leg, which had developed itself, in spite of all efforts to the contrary, during the preceding six months. There was little pain, and the inconvenience was chiefly of a mechanical nature. On examination, the tumor proved to be osteosarcoma. M. Maisonneuve began the operation, with the hope that he might save the leg, but finding this to be impossible from the extended connections of the tumor, he performed amputation at the knee-joint by a circular incision.

The first few days passed without any accident. On the 12th of March, however, when the ligature came away from the principal vessel, severe hemorrhage supervened, and it was necessary to tie the femoral in the middle of the thigh. At the same time, the wound assumed an unhealthy appearance, symptoms of putrid poison manifested themselves, and by these and colliquative diarrhoea, the patient was reduced to the last extremity; eventually, however, she rallied, and at the time when M. Maisonneuve brought the case before the Academy of Medicine she had recovered her health and flesh, and was able to move about with great agility on an artificial limb.

III.

REPORT ON THE PROGRESS OF MIDWIFERY

AND THE

DISEASES OF WOMEN AND CHILDREN.

An inquiry into the pathological importance of Ulcerations of the Os Uteri, being the Croonian Lectures for the year 1854. By C. WEST, M. D., F. R. C. P., Physician-Accoucheur to St Bartholomew's Hospital, &c. (8vo. Longman, 1854; pp. 95.)

It is held by many in the present day, that pain, leucorrhœa, hemorrhage, irregular menstruation, abortion, and almost every other disorder which is incident to woman, is due to inflammation and ulceration of the os and cervix uteri; that no cure can be effected without the removal of this local disease; and that this removal cannot be accomplished without the speculum and local cauterizations. Is it so, then? The answer which is furnished in the volume before us is unhesitatingly negative, and, as we take it, on very sound and conclusive reasons.

After some preliminary remarks upon the speculum, and the peculiarities of the uterus in health and disease, and after describing ulcers of the os uteri, and stating the reasons for which such an important rôle has been assigned to them, Dr. West fully enters into his inquiry by examining (1), the evidence of physiology on the subject; (2), the evidence of morbid anatomy; (3), the results of ulceration of proident uterus; and (4), the results of clinical observation. The first two lectures are occupied with these considerations.

1. *The evidence of physiology.* This is sufficiently clear.

"It is alleged," says Dr. West, "as one reason for the liability of the cervix uteri to affections from which the body of the organ is comparatively free, that it receives a greater amount of blood, that it is endowed with a higher degree of vitality than other parts of the organ. But surely this statement is erroneous; and it suffices to examine the healthy uterus for any one to satisfy himself of the smaller vascularity of the neck than of the body of the womb. It is the body which chiefly grows as the period of puberty approaches; it is the body to which the great determination of blood takes place during each menstrual period, and from the lining membrane of the body that the menstrual flux is poured out. The looser tissue, the large vessels, the congested mucous membrane characteristic of the menstruating uterus, are limited, or nearly so, to the body and fundus of the organ; and it is the epithelium of its cavity, not that of the neck of the womb, which is abundantly intermixed with the menstrual fluid. When conception takes place, it is the body of the uterus which first and chiefly enlarges, its mucous membrane which becomes developed to the decidua, its tissue which grows and is metamorphosed into muscular fibre; while the changes in the membrane of the cervix are limited to an increased activity of its mucous follicles, and the alterations in its substance to an increased formation of fibro-cellular tissue, with a comparatively scanty growth of muscular fibre. After delivery, the retrograde processes are much more striking in the body than in the neck of the womb. The mucous membrane of the cervix, stretched during pregnancy till the folds which it presented in the unimpregnated condition are obliterated, resumes once more its former plicated arrangement, while that of the body is detached and reproduced again and again before the organ reverts to its former state. The cervix is less sensitive than the body of the uterus: the sound which passes along the canal of the former almost unfelt, generally finds the lining of the uterine cavity acutely sensitive. The cervical canal has been forcibly dilated, it has been incised; the tissue of the cervix has been burnt with the strongest caustics, or

with the actual cautery, or portions of it have been removed by the knife, generally with no injurious consequence; often with so slight a degree of constitutional disturbance, or even of local suffering, as to surprise those who advocate, little less than those who condemn, such proceedings.

“But, if structurally so lowly organized—if physiologically of such secondary importance—if so much less subject than the body of the uterus to alterations in its intimate structure—and if so comparatively insensible even to rude modes of therapeutical interference—it certainly does appear to me that the assumption that some slight abrasion of the mucous membrane covering this part is capable of causing a list of ills so formidable as are attributed to it, ought to rest for its support upon some other and stronger foundation than any inference fairly deducible from anatomical or physiological data.”

2. The *evidence of morbid anatomy* is no less opposed to the idea that inflammation of the cervix and ulceration of the os and cervix uteri are occurrences of serious pathological importance, if we may judge from that which is cited by Dr. West, as undoubtedly we may.

“My own observations,” he says, “which amount only to 62, are too few conclusively to settle this inquiry; though I cannot but hope that the care with which they were made may compensate, to some extent, for the smallness of their number, and that they may serve at least to indicate the side towards which the weight of evidence inclines. Each examination was recorded according to a printed form, on which were specified for separate notice the dimensions of the uterus, the condition of the os, the length and breadth of the cervix uteri, the size of the uterine cavity, the thickness of the walls of the organ, and so on; points, some of which were of practical interest, while the enforced attention to others had at least this advantage, that it prevented anything from being overlooked.

“The uteri were taken from patients who died in the medical wards of St. Bartholomew’s Hospital, of other than uterine disease. Of the total number, 13 were above forty-five years of age, the remaining 49 between the years of fifteen and forty-five. Concerning all of the former class, and 30 of the latter, making a total of 43, it was either known with certainty or concluded with great probability that they were married, or had had sexual intercourse; the remaining 19 were believed to be virgins.

“The subjoined table shows the general results of the examination of the uterus in these cases, and the relations borne to ulceration of the os uteri by the more important morbid appearances.*

TABLE.

Showing the chief results of the examination of 62 uteri.

Uterus healthy in	33
“ diseased in	29
Ulceration of os uteri in	17
“ existed alone in	11
“ with diseased lining of uterus in	3
“ with induration of walls of uterus in	3—17
Induration of walls of uterus, without ulceration of os	5
Disease of lining of uterus, without ulceration of os	7
Total of diseased uteri	29

“The os uteri was abraded in 1 of the subjects above 45 years of age; and the lining of its interior was diseased in 5 of that number. In 11 of the 19 patients, all under 45 years old, who were virgins, the uterus was perfectly healthy; in 8 it presented some sign or other of disease. This consisted 5 times in slight abrasion of the os uteri, which existed alone in 3 cases; but was associated in the other 2 with some morbid state of the interior of the womb. Twice the interior of the uterus was the only part affected; and once the uterine walls were much harder than natural.

* In the above table, and in the general statement of the state of the uterus, no notice is taken of morbid conditions of the uterine appendages, nor of those affections of the womb (such, for instance, as fibrous tumors) which obviously stand in no necessary relation to inflammation of the organ, or to ulceration of its orifice.

"There is certainly something at first not a little startling in the result at which we arrive, that the womb was found in a perfectly healthy condition in little more than the half of 62 women, none of whom died of uterine disease, nor were supposed to be suffering from any grave uterine ailment. But it may, it ought, indeed, to be asked, what is the value of these appearances? Some of them may be of little moment; and the very frequency of their occurrence, instead of substantiating the opinion that they are of great importance, rather militates against that supposition. When ulceration of the os uteri was first observed, it was natural enough to attribute to it many symptoms, and to refer to its influence many structural changes. But what if such ulceration be found to be usually very limited in extent, and so superficial as to be unassociated with changes in the basement membrane of the affected surface, and exercising so little influence on the state of the uterus in general as to be unconnected, in a large number of instances, with changes either in the interior of the womb, or in its substance; while induration of the uterine tissue and disease of the lining membrane of the womb are found independently of it, or of each other? Should such appear to be the case, it will, I think, be rendered in the highest degree probable that this abrasion of the os uteri has not the long train of sequences which have been supposed to follow it, but that it is of comparatively small pathological import; that it may be found to vary under the influence of comparatively trifling causes; and not unfrequently to be dependent on functional disorder of the uterus, just as the mucous membrane of the tongue and mouth betrays the disturbance of the digestive system; that it may, in short, be the consequence, and sometimes the index, but rarely the occasion, of the ailments with which it is associated.

"Abrasion of the os uteri was observed in 11 instances unconnected with any other morbid condition of the womb. In 6 cases it was extremely slight, affecting just the edges of the os uteri, but not extending for more than a line in breadth: the mucous membrane lining the canal of the cervix was in all of these instances quite pale, but twice the lining of the uterine cavity was of a brighter red than natural. In the other 5 cases, the abrasion, though retaining the same character, was more extensive: once the abraded surface presented a finely-granular aspect, but was quite uniform; but in the other four cases it had an uneven worm-eaten appearance, probably due to a partial destruction of the papillæ which beset the os uteri.* In 4 of these cases the abrasion extended for a short distance up the canal of the cervix, while once it was limited to that exclusively, the lips of the os being perfectly pale and healthy, and the mucous membrane of the cervix unaltered, except along a strip a third of an inch in breadth by an inch in length, where the posterior wall was abraded. In 3 of the above 4 instances there was some increase of vascularity in the mucous membrane of the cervix, which, on one occasion, extended for nearly half an inch up its canal; and once this condition was very marked, and the mucous membrane appeared swollen and infiltrated, but in no other case was there any appearance of thickening of the membrane, either at the seat or in the immediate neighborhood of the abrasion.

"It is alleged, as we have already seen, that in the great majority of instances ulceration of the os uteri gives rise to induration of the cervix, the result of the extension of inflammation to it, and of the effusion of plastic lymph into its structure, which lymph comes by degrees to be more and more organized. This description, however, of the manner in which induration of the cervix uteri takes place is purely imaginary; there are no observations whatever bearing on the subject, and the difficult task of tracing the results of chronic inflammation in any tissue is obstructed by so many special impediments in the case of the uterus, that it will probably be long before we shall be in a position to speak with any measure of certainty concerning it. The account of the process by which induration of the cervix uteri is produced may possibly be correct, but at any rate it is not proven; and few things have so retarded the advance of medical knowledge as the accepting some plausible hypothesis as if it were a statement of well-ascertained facts, and then proceeding to reason from it as if from some secure basis.

"Under what circumstances is induration of the uterine tissue met with, and in connection with what other changes in the organ? It existed in 9 cases: in 5 of

* As in the delineation, by Drs. Hassell and Tyler Smith, in vol. xxxv. of the *Medico-Chirurgical Transactions*.

which it was not associated with any other disease of the uterine substance; in 3 it coexisted with ulceration of the os; and in 1 with a morbid state of the interior of the uterus. In an unmarried girl, aged eighteen, who died of cardiac dropsy, the tissue of the fundus, and of the upper half of the body of the uterus, presented its usual characters; but about half way down the body of the organ there began a strip of a dead yellow color, and much denser texture, resembling fibro-cartilage or the elastic coat of an artery. The dense tissue lay immediately beneath the lining membrane of the uterus, and being at first only one line in thickness, increased in width till it came to constitute the whole thickness of the cervix uteri. In the case of another patient, aged forty-seven, a similar condition was met with in the body of the uterus, but scarcely at all involved the cervix; and in the three other cases, in all of which the women were under thirty years old, the cervix uteri alone was affected, being white, hard, creaking under the knife, and seeming under the microscope to be composed of an extremely dense fibrous tissue.

"It appears, then, that most marked induration of the tissue of the cervix, and of part of the body of the womb, may exist where there is no other trace of inflammation, either past or present. It may also occur in connection with inflammation and ulceration of the lining membrane of the uterine cavity. In a woman who died at the age of fifty-six, about a third of the thickness of the wall both of the body and of the neck of the womb was exceedingly firm, and creaked under the knife. Abundant glairy secretion from the cervical glands, and some want of transparency of its lining membrane, were the only unusual conditions of the interior of the uterine neck; but the cavity of the organ contained a copious purulent secretion mixed with blood; its mucous membrane was thickened, vascular, and destitute of polish, and about the middle of the posterior wall completely destroyed, leaving the substance of the womb beneath uneven, rather soft, and presenting the appearance of a granulating surface.

"Ulceration of the os uteri, and induration of the uterine walls, were associated together in three instances. On one occasion the ulceration was but slight, and the interior of the cervix extremely pale, though there was great injection of the lining of the uterine cavity. In this instance the cervical wall was much indurated, that of the body of the uterus rather less so. Extreme induration of the cervix existed in one case where there was rather extensive ulceration of the os uteri; and in this instance the cervix was considerably hypertrophied. The patient from whom this uterus was taken had been under my care for some years previously, suffering from symptoms such as Gooch describes under the name of irritable uterus; her sufferings had been most severe, and the enlargement of her womb most considerable at a time when there was no abrasion of its orifice. In one case only, in which there was considerable induration of the cervix, there was a distinct line of congestion, about half a line in depth, between the ulcerated surface and the pale tissue of the indurated cervix.

"In 10 cases the condition of the lining membrane of the uterine cavity deviated from that which characterizes it in a state of health. Thrice this state of the interior of the womb coexisted with ulceration of its orifice of moderate extent, and presenting its ordinary appearance; but in the remaining 7 instances the os uteri was perfectly healthy. In 7 of the 10 cases the uterine mucous membrane was vividly injected, so as to present a bright rose tint, and was more or less swollen and softened. Once very extensive disease of the lining membrane of the uterine cavity, probably of a tuberculous character, was discovered in the body of a woman fifty-six years old. In a second case, in which the patient was stated to have had a copious leucorrhœal discharge, and to have complained of pain and of a sense of heat at the lower part of the abdomen, the intensely red mucous membrane of the uterine cavity presented an almost gelatinous appearance, and looked not unlike decidua. In this instance, though there was some ulceration of the os, yet the lining membrane of the cervix was quite pale; no secretion occupied its canal, and the tissue of the uterus was quite healthy. In a third case a small patch of ecchymosis was present beneath the lining of the uterine cavity; and in a fourth, where the patient had not menstruated for five months, the lining membrane, though of a pinkish color, had lost its polish, and looked more like an injected serous membrane than like the mucous lining of the womb."

3. The evidence of physiology and morbid anatomy is also borne out by *the results*

of *ulcerations in procident uterus*, for it is most certainly proved that the ulcer which so frequently complicates this accident does not seriously disorder the uterine functions or alter the uterine structures.

4. The *results of clinical observation* are to the same effect. These results, in the lectures before us, are elicited from the examination of no less than 1226 cases which were under Dr. West's care, either at the Middlesex or at St. Bartholomew's Hospital. In 268 of these cases the symptoms appeared to justify the use of the speculum, and of this number the os uteri was found to be ulcerated in 125. These cases were carefully recorded, and the results are stated in several interesting tables. The conclusions appear to us to be inevitable.

"1st. Uterine pain, menstrual disorder, and leucorrhœal discharges—the symptoms ordinarily attributed to ulceration of the os uteri—are met with independently of that condition almost as often as in connection with it.

"2d. These symptoms are observed in both classes of cases with a vastly preponderating frequency at the time of the greatest vigor of the sexual functions, and no cause has so great a share in their production as the different incidents connected with the active exercise of the reproductive powers. But it does not appear that ulceration of the os uteri exerts any special influence, either in causing sterility or in inducing abortion.

"3d. While the symptoms are identical in character in the two classes of cases, they seem to present a slightly increased degree of intensity in those instances in which ulceration of the os uteri existed.

"4th. In as far as could be ascertained by careful examination, four-fifths of the cases of either class presented appreciable changes in the condition of the uterus—such as misplacement, enlargement, and hardening of its tissue, while frequently several of these conditions coexisted. An indurated or hypertrophied state of the cervix uteri was, however, more frequent in connection with ulceration of the os uteri than independently of that condition.

"5th. The inference, however, to which the last-mentioned fact would seem to lead, as to the existence of some necessary relation,—such as that of cause and effect,—between ulceration of the os uteri and induration of its cervix, is in great measure negatived by two circumstances:—

"1. The number of instances in which an indurated cervix coexisted with a healthy os uteri.

"2. The fact that, while induration of the cervix was present in 25 out of 46 cases in which the ulceration of the os was very slight, it was altogether absent in 9 out of 16 cases in which the ulceration was noted as having been very extensive.

"These inferences sufficiently show that I do not subscribe to either the first or second of those three conclusions, one or other of which, it was stated in an early period of this lecture, would probably be found to represent the truth of this matter; that I do not regard ulceration of the os uteri either as the general cause of the symptoms which have been attributed to it, or even as a general concomitant of them, and index of their degree and severity. It would, indeed have simplified the study and the treatment of uterine disease very much to have found that a slight erosion of the mucous membrane of the least important part of the womb was the cause of four-fifths of those painful ailments to which the female sex is liable; but I will venture to add that it would have shown diseases of the womb to constitute a most marvellous exception to the ordinary rules of pathology."

The last lecture is devoted chiefly to considerations which tend to show that uterine ailment is often a mere symptom of some general disorder. When present in such cases, ulceration of the os uteri is of secondary importance, and equally so in many instances where disease really begins in the uterus itself, as in the ailments necessary to pregnancy, abortion, delivery, &c. Dr. West also cites evidence for the belief that when inflammatory action is set up in the womb, it begins generally in the interior, and not at the neck. After this, he proceeds to the question of local treatment, and upon this, as upon other questions, he has a very decided opinion. "In the great majority of instances," he says, "in which the nitrate of silver is applied to the os uteri, the proceeding is simply superfluous." Again, when speaking of the operation of the caustic potass, "my dissent from the practice is founded on the fact that it has none of the three recommendations of painlessness, safety, and speed; while my own experience would lead me to believe that when

adopted, it is usually either out of place or superfluous." And, in another place, he writes, "that lotions, baths, and other remedial agents, which may be safely intrusted to the patient herself, will answer the desired ends more-frequently than some practitioners imagine, is my firm conviction."

Dr. West does not think that the successful results which have followed the treatment of uterine diseases by caustic, any serious objection to his opinion.

"I think," he says, "it should be borne in mind that, in connection with this mode of treatment, various other measures are of necessity adopted eminently calculated to relieve many of the slighter forms of uterine ailment. The married woman is for a time taken from her husband's bed; the severe exertion to which either a sense of duty urged, or a love of pleasure prompted her, is discontinued; while rest in the recumbent posture places the uterus and the pelvic viscera in just that position in which the return of blood from them encounters the smallest difficulties. The condition of the bowels, probably before habitually neglected, is now carefully regulated, and the patient's diet, bland, nutritious, and unstimulating, often differs widely from that with which, while all her functions were overtaxed, she vainly strove to tempt her failing appetite. Add to this, that the occurrence of the menstrual period is carefully watched for; that all precautions are then redoubled, and each symptom of disorder, such as on former occasions had been borne uncomplainingly, though often not without much suffering, is at once encountered by its appropriate remedy; while generally returning convalescence is met in the higher classes of society by a quiet visit to the country, or to some watering-place, in pursuit not of gaiety, but of health; and we have assembled just those conditions best fitted to remove three out of four of the disorders to which the sexual system of woman is subject. But the very simplicity of these measures is a bar to their adoption; for you will bear me out in saying, that the rules which common sense cannot but approve, but which seem to require nothing more than common sense to suggest them, are just those to which our patients least readily submit. The case is altered, however, when these same rules are laid down not as the means of cure themselves, but only as conditions indispensable to the success of that cauterization which, repeated once or oftener in the week, is the great remedy for the ulceration which the doctor has discovered, and which he assures his patient, and with the most perfect good faith, produces all the symptoms from which she suffers. The caustic used in these milder cases is the nitrate of silver; the surface to which it is applied is covered by a thin layer of albuminous secretion, which it is not easy to remove completely, and which serves greatly to diminish the power of the agent, while the slightly stimulating action that it nevertheless exerts, seldom does harm, sometimes, I believe, does real good, though no more than might have been equally attained by vaginal injections, or other similar remedies, which the patient might have employed without the intervention of her medical attendant."

In conclusion, we have no hesitation in saying that these lectures are worthy, both in style and argument, of the high assembly before which they were delivered, and that they *ought* to be read by all practitioners of medicine, who are in any way desirous to keep pace with the progress of medicine.

On the treatment of Displacements of the Uterus, by intra-uterine pessaries. (Gazette Médicale de Paris, June, July, August, 1854. Archives Générales de Médecine, June, July, August, 1854.)

This subject has lately caused a most important discussion in the Academy of Medicine of Paris. It was introduced by the detail of two cases reported in our last volume, both of which died with symptoms of peritoneal inflammation, subsequent to the use of the uterine sound. The result was that a committee, composed of MM. Robert, Huguier, and Depaul, was appointed, and an elaborate report drawn up by the latter, was presented to the Academy, wherein the use of intra-uterine pessaries and the uterine sound was condemned in the severest terms.

M. Depaul, in this Report, undertakes to show:—

1. That it is an error to attribute to deviations of the uterus those symptoms which have an entirely different origin.
2. That in the generality of cases sufficient notice has not been taken of much

more frequent pathological conditions, which may exist alone, may produce the same symptoms, and may also, and that frequently, draw the uterus into an abnormal position.

3. That science possesses a simple and rational means of cure for these affections; which every day, in the hands of experienced practitioners, affords most satisfactory results; and which is equally efficacious in those rare displacements producing inconveniences which it is necessary to remove; or in those much more common affections which, at first simply the consequence of a morbid condition, may aggravate the condition or postpone the cure.

4. That when the published cases are submitted to a careful yet impartial criticism, they are far from having the signification given to them; on the contrary, almost all testify to the insufficiency of the new method of treatment.

5. That, despite of all that has been said, we must cease to deceive ourselves, and inquire if the time has not arrived to take into serious consideration the facts, already too numerous (though all are certainly not known), which prove that the most formidable affections, and even death, are often the consequence of manipulations which, at first sight, are contrary to common sense.

The reporter next considers the instruments used, the natural position of the uterus, and the various displacements which it may undergo.

The Instruments are of two kinds. The uterine sound, especially intended for exploration, and the different intra-uterine pessaries.

1. *The Pubic Pessary*, consisting of two parts, one introduced into the cavity of the uterus, and the other attached to the pubis.
2. *The Spring Pessary*.
3. *The Simple Bulb Pessary*.
4. *The Galvanic Pessary*, and
5. *The Dilating Pessary*.

General considerations on the natural position of the unimpregnated Uterus. Cruveilhier states, that the uterus has no certain direction, and this the reporter considers as another way of expressing the fact, that many temporary and accidental causes may change the direction of the organ relatively to the pelvis. He considers the natural position to be in the direction of the superior outlet, i. e., obliquely from above downwards, and from before backwards, the female being supposed to be in the sitting posture. It has been lately stated that the uterus has two axes—the one for the body, which is nearly horizontal, the other for the neck, which is in the direction already indicated. From which it would appear that ante flexion is to be considered as the primary position, and that this a position which continues until altered by the first pregnancy. In this opinion he believes Boullard and Verneuil have mistaken a purely accidental and *post-mortem* condition for the normal position, which conclusion he had arrived at after numerous experiments on the dead body, and the examination of three women a short time before their execution. In these women the position of the uterus was ascertained to be oblique from above downwards, and from before backwards, during life, and twenty-four or thirty hours after death the direction was found to be altered; in one there was ante flexion, although the woman had borne children, and in the two others complete retroversion.

The different kinds of deviation are next described, viz., anteversion, retroversion, and latero version; ante flexion, retro flexion, or latero flexion; a rare variety wherein, by a bending of the uterus, the two extremities are brought nearer to each other; and another more rare, where the organ is bent in the form of an italic S; and prolapsus.

If these deviations be considered as pathological conditions, much more than one-half of the women must be considered as suffering from disease, and treated accordingly. But this is not the case, and no one pretends it is so. Yet, since attention has been given to the intra-uterine pessaries, the influence of these deviations upon the health of females has been singularly exaggerated; and too often affections depending upon other pathological conditions, have been attributed to these alterations of position. What would be said of any pathologist who, in tracing the symptoms of pneumonia, chose a case complicated with pleurisy, and attributed all the symptoms to the former disease? That such has been the mode of proceeding

with respect to the diseases of the uterus, is shown by a careful examination of the recorded cases. After examining the twenty cases recorded by Valleix, in his clinical lectures, the reporter considers himself authorized to conclude that their author, in the explanation of the symptoms, has attributed them much too exclusively to the alterations of position which were present. These cases show—(a) that deviations do not produce the symptoms and inconveniences attributed to them.—or that the partial development of simple inflammation is sufficient to produce them, (b) that in addition to the displacement, sometimes only trifling, much more serious lesions existed, which were passed over with a surprising facility, and without inquiring whether they played any part in the production of the symptoms. It appeared to the reporter that when the uterus was heavy, voluminous, and the neck also hypertrophied and presenting granulations or large ulcerations extending into its cavity; or when the uterus was painful to pressure, and an abundant discharge passed from the cavity, that these pathological conditions merited to be taken into consideration. The cases recorded by Gaussail, and often cited by Valleix, lead to similar conclusions; as also, the observations of Piachaud, formerly a pupil of Valleix, who adds, that he has seen serious hemorrhage, and, in two cases, even perforation of the uterus, follow the use of those pessaries.

In determining this question, it is necessary to ascertain (1.) Whether amongst the healthy women without uterine symptoms, a certain number have not the uterus more or less displaced. (2.) Whether, amongst those suffering from some other affection, with displacement, by curing the former, the latter will not disappear, or at least, the symptoms attributed to it. (3.) Whether uterine affections, without any appreciable displacement, do not cause all the symptoms attributed to these displacements.

Professor Dubois stated, in 1849, that putting to one side the disturbance created to menstruation by flexions of the uterus, he considered them as inoffensive alterations; and the other displacements,—prolapsus, ante flexion, and retroversion, as perfectly innoxious, except when these deviations were very great. Contrary to the opinion of some, he thought, with Lisfranc, no other morbid symptoms existed, except those derived from some pathological complication, and particularly from chronic inflammation. These opinions are also held by other experienced physicians. In twenty-seven cases of retroflexion mentioned by M. Gosselin, none suffered from uterine symptoms. At the Hôpital des Lourcine, a considerable number of women had prolapsus, retroflexions, anteversions, retroversions, and yet did not present any symptoms of uterine affection. On the other hand, a good number suffered from uterine pain, without having any deviation. Whilst others suffering from uterine pain with displacement, the pains had ceased after repose, antiphlogistic means, and narcotics, although the deviations still persisted.

In more than sixty cases observed by himself, of various affections of the uterus, complicated with one or other form of deviation, he could scarcely count three where the symptoms had continued after the removal of the fundamental disease. In many the displacement disappeared, and in those wherein it remained, it produced no inconvenience. The experience of each day showed, that all the symptoms usually attributed to displacements, may be produced by other diseases.

Special instruments to remedy the sterility, supposed to depend on displacements, had been invented. But in order to place any value on the results of this treatment, an inquiry ought to be made, as to whether the affections existing alone, or in company with the displacements, did not play the most important part in the production of sterility. It is not difficult to understand that inflammation of the cervix, especially when it extends to the body of the organ, or to the Fallopian tubes, may oppose an insurmountable obstacle to impregnation, either by obstructing the passage of the spermatozoa, or of the descent of the ovule. It is also probable that the fluid secreted by the inflamed mucous membrane may be injurious to the fecundating material; whilst women who have long suffered from uterine affections have become pregnant after they were cured, quite irrespectively of the displacement of the organ. The question, however, of sterility always has been, and will long remain, one of great obscurity; for, independent of the causes depending on the condition of the uterus, there are the various alterations in the ovary and Fallopian tubes; not to speak of those totally independent of the female, and which must be sought for in the other sex.

In a very small number of cases the health of the female may be deranged by displacement of the uterus alone, and especially by prolapsus; so that it becomes necessary to oppose to these exceptional cases, an exceptional mode of treatment. And, under certain circumstances, the displacement, although entirely a secondary affection, may exercise a troublesome influence, retard the cure of concurrent affections, and notably aggravate the symptoms; but, under these circumstances, we possess various means of treatment, which will never, or hardly ever, compromise the health, and, above all, the life of the individual.

And, if a certain number of uterine affections resist these means of treatment, it ought to be attributed less to the insufficiency of therapeutical means, than to the obstacles of every kind which prevent their rigorous application. It is only a small number of women who will consent to put to one side the duties of their position, of their families, of society, &c. Indeed, it may be said that many women are cured in spite of themselves.

The first point to ascertain in uterine affections is, whether the tissue of the organ be healthy. If so, and there is displacement, the latter must be attended to. Everything which will diminish the pressure of the intestines, such as the removal or modification of the stays, the use of hypogastric bandages, properly made and applied, afford excellent results in the treatment of prolapsus. When these are insufficient, the various kinds of pessaries become powerful auxiliaries. In every case where the support can be given by the abdominal parietes it is infinitely to be preferred; and that it is only as a last resource that we must condemn females to wear any foreign body whatever in the vagina. In aggravated and rebellious cases of retroversion, good results have followed the introduction into the rectum of pads or pessaries. But with respect to the plan of cauterizing a portion of the neck and corresponding part of the mucous membrane of the vagina with the view to obtain adhesion, and thus to draw the organ in a contrary direction to the deviation, it is very doubtful that experience will sanction the proceeding, which, moreover, may not be so harmless as is believed.

The statistical results obtained by Valleix, leave not only much to desire, but also contain the materials for justifying an opinion diametrically opposed to his. Of 180 cases, 129 were permanently cured; a good number had obtained notable amelioration; many were still under treatment and others had only submitted to an incomplete and insufficient treatment. These figures show that this method was successful in nearly every case, and that scarcely any rebellious displacements resisted it; a result very extraordinary, and which of itself creates a doubt as to the accuracy of the reports. Twenty cases reported by Valleix, five by Gaussail, and three by Piachaud, are afterwards examined. The reporter expresses great regret, that when he wished to know the results of Simpson's treatment, he received in reply only assertions without any proofs. The cases of Valleix furnish the most striking proof of the illusions entertained by some physicians; whilst those of Gaussail testify more strongly still, if this were possible, against the new method of treatment. One of these cases is thus: After having employed for several months the sound and various intra-uterine pessaries, they were obliged to admit that it had not produced any amelioration. It appeared even to the patient that she was more fatigued by walking, standing, and the ordinary movements of the arms. The alterations in the position of the uterus were little appreciable. The patient, and the medical man himself, were convinced that this treatment ought to be abandoned.

The following is given as an example of the mistakes which may occur in the results of the treatment:—

Madame P. complained of pain in the groins, hypogastric region, lumbar region, and thighs, which were increased by standing and walking; of frequent desire to pass the urine, and difficulty in relieving the bowels. She entered the hospital under M. Valleix, who recognized an anteversion of the uterus, and, in due time, introduced an intra-uterine pessary, which was retained for four days and nights. The principal symptoms were removed, the instrument withdrawn on the fifth day, and the displacement no longer existed. The patient remained in the hospital for five days, and was pointed out to a great number who visited the hospital, as an example proving the efficacy of the instrument. She remained, in all, seven weeks in the hospital, and was dismissed cured; but the day after returning home the pains again appeared; she returned to the hospital; the anteversion was found still to exist, and

she was charged with being imprudent with her husband. She returned home, consulted another physician, was treated by him; the pains became notably less, although the anteversion still persisted.

Scanzoni, when speaking of the treatment of deviation of the uterus by the instrument of Kiwisch, says: "In twenty cases I have tried the method without obtaining one single example of permanent cure."

The intra-uterine pessaries have undergone important modifications by Valleix, in the gradual shortening of the uterine portion. These modifications have become so radical as to constitute a giving up of the original principle. Another plan has been tried, which consisted of passing the sound into the cavity of the uterus, relieving the displacement, then withdrawing the instrument, and introducing an Indian-rubber pessary filled with air. Of nine cases treated in this manner, seven were permanently cured, and the eighth was greatly relieved, when, for particular reasons, the treatment was interrupted. Valleix himself remarks: "These facts require no commentary; they show that the displacement is relieved, and remains so, as well as when the pessary with the intra-uterine portion was employed." But they do not show that the cure was permanent, by the new, any more than by the old method; whilst they furnish the most complete condemnation of the intra-uterine pessaries. One of the reasons assigned by Valleix in support of his opinions is, that the new method has received many supporters. In this he is singularly mistaken; for, although a few have defended it here and there, the men who have condemned it are infinitely more numerous, and this after having tried it in practice.

The opinions of the profession in Great Britain are next considered, and the following account is quoted from an eye-witness of Dr. Simpson's practice:—

"The tolerance of the uterus, as to mechanical interference, differs greatly in different individuals; in some patients these instruments produce but little inconvenience during the first minutes or hours after their introduction; with others, on the contrary, they quickly excite inflammation which may have serious consequences. Hence, in some cases, they can be borne for some days, weeks, months, or even years, without inconvenience; but in other cases the sensibility of the uterus has, from the first, raised a veto which ought to be respected. Unfortunately, this has not been attended to by some who have identified themselves with the mechanical treatment and cure; and, from having mistaken these warnings, a certain number of women have been victims to these instruments. If the exquisite sensibility of the uterus, excited by the presence of a foreign body, be now and then overcome, it appears that this organ may support it for a long time with apparent impunity. I have seen some cases of this kind, but I believe them to be very rare. In the great majority of females some morbid condition of the uterus, or of its appendages, has supervened, and a prompt withdrawal of the instrument, as well as an active treatment, has become necessary."

"The immediate effect of these pessaries is, for a short time, singularly deceptive. The patient, depressed by the continuance of the pains, and the other symptoms, consults a mechanical physician; a pessary is introduced; the uterus is replaced. She is requested to walk in the consulting-room, and, to her great astonishment, all the symptoms have disappeared as if by magic. The physician is praised, his talents are extolled; full of joy, the patient recounts to her astonished friends the marvellous cure, the future apparently full of hope. But this marvel has scarcely lasted a few hours, when the scene changes; an irritation commences, and acute inflammation quickly follows. Recourse is had to calomel and opium, and other antiphlogistic means, and the patient, if she escape a most serious disease, has often to bear the dreadful results of a long-continued salivation. Such is the history of a certain number of women who have submitted to the use of these instruments. I have no doubt, from experience itself, that the use of these instruments may be followed by the most serious affections; hemorrhage, rectal fistula, ulcerations of the rectum, metritis, metro-peritonitis, pelvic abscesses, are amongst the more frequent consequences; more than once even death has been the final result."

Dr. Fleetwood Churchill remarks: "In cases of extreme deflection, and of long standing, although the womb be replaced, it soon falls back, and no ground appears to be gained. At first sight the contrivance seems exactly suited for the purpose, but experience has shown that it cannot always be used with impunity or safety." And when treating of dysmenorrhœa, the same author remarks: "I do not believe

that the uterus is so tolerant of interference, and of the presence of foreign bodies, as some have stated, and I could bring many cases to show the evil results of the 'meddlesome' practice, if it were necessary."

The opinions of Dr. Ashwell and Dr. Green, are also given in condemnation of the use of these instruments, as well as the cases reported by Dr. Robert Lee. One, a young lady, had been treated for ulceration of neck of the uterus; afterwards her sufferings were said to be caused by a retroversion, when a horrible instrument with a long stalk was introduced into the uterus. When the patient had been nearly killed by this impaling machine, it was withdrawn, leaving her health in a most deplorable condition. Another, a young lady soon after marriage, was treated successively for leucorrhœa and ulceration, without relief, and finally for retroversion. A pessary was introduced into the uterus, and occasioned dreadful pains. These pains became intolerable, and at the end of a week, it was withdrawn. A month afterwards it was re-introduced, and although the pain produced was intense, still she remained on the back, and bore the instrument for six weeks. It was then withdrawn, the patient being glad to escape with her life.

The opinion of Dr. Oldham, is next quoted:—

"Dr. Simpson's uterine supporter—the principle of which is theoretically correct, perfect, and highly characteristic of the enterprising intelligence of the inventor—I must candidly say that I dare not use. I was very much struck at first with it, and thought that it would supply a most valuable aid, not only for retroversion, but also for long standing cases of procidentia of the uterus. When I tried it, I found that it required a good deal of manœuvring to introduce it, and that it set up considerable irritation of the uterus, peremptorily demanding its removal. I do not doubt, after Dr. Simpson's testimony, that the uterus of some women will tolerate this great irritant; but the chance of exciting such symptoms as I have witnessed from it, is to my mind, conclusive against its general adoption, especially when other unobjectionable resources are at our command. I do not attach the same importance as Dr. Simpson to the replacement of the womb as a means of reducing its volume; and I feel well persuaded, that supposing there be any such advantage from this replacement, it is more than counterbalanced by the evil of having an ivory stem retained within its cavity."—(*Guy's Hospital Reports*, 1849.)

Dr. Oldham afterwards met with two fatal cases, which demonstrated the accuracy of these views. Speaking of the mechanical treatment of sterility, he remarks: "Obstetricians ought to be nicely scrupulous in encouraging a plan of treatment of very doubtful efficacy, and dangerous to life. I am sure that in these operations, a hazard is run quite disproportionate to the amount of good accomplished; and I shall recount two fatal cases which have come to my knowledge; and I cannot but infer that others of a similar kind have occurred, but have not been recorded side by side with those of a more fortunate issue."

1. A lady, from youth, suffered intense dysmenorrhœa, and pains during sexual intercourse. Her health was much affected, and she came to London for the purpose of having the os uteri dilated, which had been attempted by wax dilators. The os uteri was divided, and silver dilators introduced. This produced horrible suffering; she did not experience the slightest relief from the dysmenorrhœa. A silver canula was afterwards introduced. Again she suffered frightfully. Another tube was passed; the distress was intolerable; sickness and shivering came on; her sister succeeded in removing the tube; but all treatment was unavailable, and she sank. On examining the body below a line from the anterior spinous process of the ilia, there was recent intense peritonitis; the pelvis filled with pus-like fluid; the cavity of the uterus filled with bloody mucus. There were also signs of acute metritis; small fibrous tumors in the substance of the organ; congenital constriction of the right Fallopian tube; and structural alteration of both ovaries; but no other disease.

Dr. Oldham remarks: "This case affords a most instructive example of the dangerous effects of dilatation, even in experienced hands, and the great caution with which it should be undertaken. It is important, too, as showing the difficulty of detecting the cause of sterility. I am sure that there was no kind of morbid contraction in this case; and that the os and cervix uteri, which were alone treated, had nothing whatever to do with the dysmenorrhœa or sterility."

2. A young married lady was attended by Mr. Bransby Cooper for a very painful

fissure in the anus. She afterwards spoke to him of a very distressing social trouble—sterility. He could not detect any defect in the uterine organs, but referred her to a physician-accoucheur, who discovered a retroverted state of the uterus. He introduced a uterine stem supporter, which set up peritonitis, of which she died in three days.

Dr. Oldham remarks: "I cannot but characterize the practice of fixing the womb in a definite position by means of a stem-supporter as rash and hazardous, causing severe irritation and pain, and even death, to the patient, with, at the best, a very questionable amount of good. The anteversion or retroversion of a small uterus, without other complications, does not, in my experience, occasion any great distress; and it is far better to leave it alone, and improve its tissue with the rest of the organs of the body, than to prop it up for a time under the feeble pretence of curing it." (*Guy's Hospital Report*, 1849.)

Dr. Montgomery, of Dublin, in a recent conversation with M. Depaul remarked, that all he knew and all he had seen firmly convinced him of the inutility of this method of treatment, and of the great dangers it entailed on the female. And Dr. Duncan, who practises in Edinburgh, has lately published similar opinions.

When the uterine sound is employed to replace the uterus, it ought to be considered as an intra-uterine pessary, with only this difference, that as the foreign body remains a shorter time in the cavity of the organ, the irritation and the serious consequences which follow ought to be less frequent. There is not only no necessity in the generality of cases to use the uterine sound as a means of diagnosis, but in certain circumstances, it may give rise to error. For instance, suppose a small fibrous tumor developed in the uterine wall of the uterus, and projecting into the cavity, the sound will meet with this obstruction and require to be directed backwards to pass it, thus giving rise to the idea of a retroversion or retroflexion. It has been said that we are enabled to ascertain the mobility of the uterus by the sound, which may be possible, but is unnecessary, as the same may be determined by the fingers. However, the sound is useful in some cases; as in the diagnosis of intra-uterine polypus, and other tumors existing in the cavity; also, to decide whether a tumor is formed in the walls of the uterus, or independent of it. But these examples, and others which need not be cited, are only exceptional cases, and are also distinguished by other characters.

On reflecting on all that has been undertaken against the uterus for some years—an organ which previously we scarcely dare examine—we cannot avoid asking the question whether our advances have been too timid or too rash. Could it be more rash? Could more have been done for the last twenty-five years than has been done?

The introduction of the sound is not so simple a thing as has been pretended. The published observations show that this operation, called simple, has, almost always, occasioned pains more or less severe; been almost constantly followed by the escape of some blood, and even hemorrhage; that some women have suffered from shivering and fever; others from true metritis or peritonitis; and whilst in some these accidents have been overcome, and the irritability of the uterus calmed, still, others less fortunate have paid, by their lives, for an investigation which might have been dispensed with.

The introduction of a foreign body into the uterus may incur the possibility of inducing abortion; for it is by no means easy to diagnose an early pregnancy. When we remember that most experienced physicians have not been enabled to avoid this accident; that the data furnished by women are frequently incomplete, without taking into consideration those cases where it is their interest to conceal, we are forced to conclude that the greatest reserve is necessary, and that this instrument, which is good, but dangerous, ought only to be employed when indispensable. Nor must it be forgotten that if this method became general, it might lead to criminal practices, and serve as an excuse, or at least a pretence, for inducing abortion.

The cases related by Broca and Cruveilhier are then examined, and the conclusion established, after refuting the objections of Valleix, that in both the inflammation which caused the death was produced by the instrumental treatment employed.

This danger was further shown by the recital of four other fatal cases.

1. *Fatal metro-peritonitis in a woman treated by Valleix by means of the intra-uterine pessary.*

D. P—, æt. 35, had for several years hysterical symptoms, and retroversion of the uterus, which was considered the cause of the nervous symptoms. Discontented that no treatment was applied to remedy this, she applied to a physician, who cauterized the neck of the uterus, and ordered different medicines. After all, she was much worse than before. She conceived the idea that if she had a child she would be cured; and to procure this would have submitted to any description of pain. She heard that Valleix replaced the deviations of the uterus, and placed woman in a condition to conceive. In this hope she entered the Hospital la Pitié; the 19th or 20th March the intra-uterine pessary was applied, and in spite of the horrible pains which it produced, retained for thirty-six hours. On the 21st, unable longer to bear the pains, she left the hospital, saying that she would die if she remained any longer. After returning home she sent for M. Dachorry, who found her in great agony, with all the symptoms of metro-peritonitis, yet sufficient strength to relate what had been done. She declared that medicine was useless; and died the same day.

2. *Fatal peritonitis in a woman treated with the intra-uterine pessary.*

J. T—, æt. 23, entered La Pitié the 6th February, 1852, under M. Valleix. The uterus was retroverted, and the intra-uterine pessary introduced at different times. On the beginning of March sharp pains came on in the abdomen; the pessary was withdrawn, but all the symptoms of intense peritonitis showed themselves, and were rapidly developed, despite energetic treatment. Not wishing to die in the hospital, she was removed to the residence of her parents, and died the following morning.

3. *From the report of M. Debout.*

A woman, about 28 years of age, had retroversion of the uterus. Numerous means having proved useless, it was decided to have recourse to the stem-pessary recommended by Valleix. M. Nelaton introduced the instrument at half-past three. She was well in the evening, and had remained in bed. The next morning she was up, and delighted, saying she never felt so much at ease; she had been about the room all the morning. M. Nelaton had barely left her an hour when he was sent for, and found her suffering from all the symptoms of peritonitis following perforation of the intestines. Despite energetic treatment the patient died of chronic peritonitis six weeks after; the body was not examined.

4. *M. Arain's case.*

A woman, æt. 27, was affected with a displacement backwards of the body of the uterus, probably the consequence of a fall from the chair. An antelexion, with a peculiar direction of the neck of the uterus in front, the consequence of a congenital condition, was discovered. The sound was several times introduced without accident. On the 8th December the intra-uterine pessary was first applied; and again on the 10th, the patient being unable to retain it more than twenty-four hours. It was this time retained eight days; but the displacement again occurred as soon as it was withdrawn. It was reintroduced on the 29th, and, although some pain showed itself, was retained until the 3d January. On this day it was withdrawn in consequence of evident signs of metro-peritonitis. Although active treatment was employed, the symptoms increased, and the patient died on the 7th January. On the examination after death, the body of the uterus was retroflexed, although the neck was directed upwards and forwards. The characters of peritonitis were present, the cavity of the uterus filled with pus, which penetrated into the Fallopian tubes; the tissue of the uterus was not inflamed, and an ulceration existed on the mucous membrane, on a level with the extremity of the uterine stem.

5. In one of M. Maisonneuve's cases the use of the intra-uterine pessary had been followed by peritonitis and death. These cases were considered to require no commentary.

The conclusions drawn at the end of the report are that:—

1. The influence of displacements of the uterus on the health of females had been considerably exaggerated.

2. In many cases, the symptoms attributed to them are produced by another pathological state of the uterus.

3. In the healthy condition, the uterus, although capable of considerable movement, is placed obliquely from above downwards, and from before backwards.

4. In a great number of females, the uterus may be inclined, flexed, abased, or pushed towards one or other side of the pelvis, without in any way affecting the health of the female, the deviation in this instance constituting a deformity without importance.

5. When there exists simultaneously a deviation and chronic inflammation, or neuralgic state of the uterus, it is sufficient in the immense majority of cases, to treat and cure the latter, in order that the former may disappear; or if it persist, to prevent it from exercising any injurious influence over the health of the female.

6. Nevertheless some deviations are met with, but these are very few, which appear to produce sufficient inconvenience and consequences as to require a treatment directed to them.

7. These exceptional cases may be treated efficiently and almost constantly without danger, through the medium of the abdomen, the vagina, or the rectum.

8. The facts brought forward to show the efficiency of the treatment by intra-uterine pessaries, have been wrongly interpreted.

9. It is a mistake to affirm that the uterus, when replaced for a moment, has, in the great majority of cases, remained in the healthy position—a fact which can be ascertained every day by physicians who are called upon to examine patients who have undergone this treatment, and in whom the deviation still exists.

10. By attributing the cures and relief obtained, to the use of intra-uterine pessaries, it has been forgotten, that concurrently with it, a great number of other means have been employed whose well-known action would account for the results obtained.

11. The cases communicated to the academy by MM. Broca and Cruveilhier, are but too evident examples of the fatal influence which this method of treatment may exercise.

12. These, however, are far from being the only facts; in France, as well as in England, the cases of death which may be attributed to the employment of intra-uterine pessaries, are already too numerous not to convince the most confident.

13. Independently of those who have paid for their experience with their lives, we are horrified when we think of the accidents, without number, which have occurred in those who have escaped these dangers (pains more or less severe, sometimes agonizing; hemorrhages slight or severe, anæmia, nervous symptoms, shiverings, fever, faintings, peritonitis, pelvic abscess, metro-peritonitis, &c.), without taking into account that in many cases this treatment had to be renounced.

14. Whilst acknowledging that the uterine sound has many advantages in the diagnosis of certain affections, we must not forget that it is useless in a great number of circumstances, and as it may be followed by troublesome consequences it should be reserved for those exceptional cases which require it.

15. In regard to the intra-uterine pessaries, we think they ought to be proscribed, because they are useless; powerless to produce the effects which are expected; and causing the patients to run the most serious dangers.

Several members of the academy took part in the discussion which followed.

M. Piorry examined the question of displacement of organs generally, and especially those of the uterus.

He considered:—

The employment of intra-uterine pessaries almost always palliative, and only applicable in very rare cases; and that it was only after a considerable lapse of time that they appeared sometimes to produce curative effects.

The inconveniences attending their employment are infinitely more important and more numerous than the advantages, and render their use perilous.

M. Malgaigne remarked on the opinions held by different observers. Valleix regarded the displacements as the principal cause of all the morbid symptoms; Dupaul that they had no part in the production of the morbid phenomena; Gibert and Beau maintained that diseases of the uterus were always the result of some general affection; Robert makes the granulations play the principal part; whilst Dubois maintained that displacements occasioned no symptoms, that engorgements and granulations were epiphenomena without importance, and that the principal disease was inflammation.

M. Malgaigne concluded :—

That the intra-uterine pessary ought not to be absolutely proscribed, but reserved for rare and uncomplicated cases, without irritation ; and that the uterine sound must be used with caution.

M. Huguier considered that in those exceptional cases where deviations of the uterus produced serious and grave symptoms, we might have recourse to the intra-uterine pessaries, provided these affections resisted the other means of cure, and it had been ascertained that the uterus could be returned to its natural position without effort or pain, and that proper precautions were taken, and directions given to the patient to remove the instrument immediately she felt any agitation, inconvenience, pain, or fever.

He stated that deviations had peculiar symptoms which prevented them from being confounded with other diseases, and that lateroversion, anteflexion, or retroversion do not offer much obstacle to impregnation.

M. Hervez de Chegoin said, the best means of remedying displacements, which produced distinct symptoms, was by the use of the ordinary pessaries ; but these ought only to be applied when they occasioned no pain, and after the other complications had been cured. After the effects of the use of intra-uterine pessaries mentioned in the report, and which his own experience confirmed, he considers that they ought no longer to be employed.

M. P. Dubois contended that the employment of the ordinary pessaries would not rectify a deviation of the uterus, and that the intra-uterine pessary was the only means to attain this end. But was the introduction of this instrument dangerous ? Its use causes pains more or less severe, hemorrhages more or less abundant, and sometimes even fatal consequences ; but in some cases it occasioned no injurious effects, was followed by temporary relief, and occasionally by permanent benefit. But whatever may be said to the contrary, the intention of the instrument was not attained, for the deviations were not removed. As it was impossible to retain the pessary for an indefinite period, the moment it is withdrawn, the organ falls into its former position. He had tried the stem pessary in about twenty cases, but after about two months treatment the displacement remained the same, although several of these were manifestly relieved. He had observed the same results in patients treated by Simpson and Valleix ; and one in particular which had been published by the latter as cured. Valleix applied this instrument to relieve pains in the sacrum, the iliac fossa, a feeling of weight increased by standing and walking, and considerable sensibility of the generative organs. But these symptoms did not belong to displacement, but to very different diseases ; the proof of which was that they disappeared, although the displacement persisted. The relief obtained consisted in inducing some peculiar modifications in the sensibility of the uterus, or, by exciting an acute attack upon a chronic disease. Nervous affections of the uterus, and hyperæsthetical conditions were sometimes relieved by the stem pessary. In these cases the patient feels great pain in the genital organs, with generally a little redness of the vulvo-vaginal membrane, which may prevent all approach to sexual intercourse, and be the cause of sterility. The pain sometimes extends to the uterus, and whatever part of the vagina is pressed with the finger, severe pain follows. Valleix uses this instrument much less frequently than formerly, and has gradually reduced the stem portion so much, that it is no longer an intra-uterine support. One of the great reasons of the success of Valleix remained yet to be pointed out, viz., that he did not content himself with the local treatment, but examined carefully into the constitutional condition, and treated this likewise. It was to this that his general success was to be attributed.

M. Caseaux expressed his opinions at considerable length, and summed up with these conclusions : that the intra-uterine pessary is most frequently useless, and often dangerous ; that deviations ought to be distinguished from flexions ; that simple deviations, though sometimes innoxious, often cause serious consequences ; but we possess the means of sometimes curing them, always of relieving them ; that accidental inflexions are scarcely ever followed by any consequences, and do not require any treatment ; that amongst the accidental inflexions we should only attempt to remove those which follow a displacement ; and that in using the uterine sound it is possible to avoid the injurious results, whilst it might render real service.

M. Gibert observed that this discussion, as well as that of 1849, proved that

most contrary opinions may be held by the most eminent and talented men, even with regard to the diseases which were appreciable by the sight and touch. During the last thirty years the principal importance had been successively attached, first to chronic metritis, then to ulceration of the neck of the uterus, afterwards to engorgement of the neck and body of the uterus, to granulation of the internal surface, and finally to displacements of the organ; and we might predict that these latter affections would not long occupy the great importance now attached to them. Celebrated surgeons have been so led away as to propose and even perform amputation of the neck of the uterus which was healthy, or at least, had no serious disease; in other females, the simple consequences of pregnancy had been regarded as indications of serious disease, for the removal of which the most energetic means had been proposed; and when we so often meet with pretended patients who, after having been submitted to cauterizations, pessaries, hypogastric belts, absolute rest, and sometimes to all the special means of treatment adopted by Lisfranc, and who have continued to suffer until they have got rid of both their fears and all kinds of surgical treatment, we are forced to admit that enormous abuses have been introduced in the treatment of the diseases of females, and that it becomes a right, perhaps even a duty, to point them out. He proposed to change the terms of the first conclusions, thus:—

“The influence of displacements, over the health of females, have been, at present, considerably exaggerated, so also the influence of several other diseases, such as ulcerations, engorgements, granulations,” &c.

He considered the various diatheses, nervous, lymphatic, strumous, syphilitic, rheumatic, gouty, hemorrhagic, as engendering most frequently those symptoms attributed to uterine diseases, and which had particularly fixed the attention of Lisfranc and his pupils; diseases which, when they really exist, became purely secondary.

M. Velpeau, did not think that the other diseases of the uterus were likely to be mistaken for deviations. Where any discharge or other complication existed, he treated that complication before relieving the deviation. It had been said that deviations did not produce any symptoms, because some women were observed to have them and yet to suffer no inconvenience. But all diseases are now and then met with in a latent state, and, moreover, some patients are so constituted that nothing will trouble them. The uterus may be moderately retroverted or anteverted or flexed, without any disturbance except in the menstrual function, and by occasioning sterility. But when these affections are carried to a considerable degree, the uterine ligaments are dragged on, and these contain sympathetic nerves communicating with those of the abdomen. Pressure is also exerted on the bladder and rectum, and hence the frequent desire to pass the urine, the constipation, the hemorrhoidal pains, weight in pelvis, pains in the loins, and shootings in the groin. Thus a female, some years ago, on making an exertion, felt some change in the lower part of the stomach, and from that time had suffered from the preceding symptoms. She could scarcely walk, and that with pain; these symptoms disappeared on lying down, and returned when erect. On examination, a deviation was discovered; immediate relief was obtained when the uterus was replaced, whilst the symptoms recurred when it again returned. Could there be more direct proof of the symptoms caused by deviations or displacements? It was impossible to confound these symptoms with those produced by other diseases of the uterus, as inflammation, tumors, chronic irritation, granular condition of the mucous membrane in the lips of the uterus, &c. It is also correct to say that deviations of the uterus may of themselves cause a series of changes which may, in time, produce real dangers; these changes and dangers varying according to a variety of circumstances depending on the excitability or constitution of the patient. With regard to the treatment of these affections, he considered the means recommended in the report as inefficient, and the intra-uterine pessary as the only efficient means. But the use of this instrument was not without serious inconvenience and sometimes danger.

M. Amussat said, that until lately all kinds of displacements had been confounded together under the term falling-down, or prolapsus, and had been treated indiscriminately by pessaries or hypogastric bandages. He first conceived the idea to introduce a stem into the cavity of the uterus, to relieve displacements, in 1826; but had renounced this plan after losing a patient from inflammation brought on by

this instrument. Having afterwards observed several spontaneous cures of displacements and deviations produced by adhesions between the neck of the uterus and the vagina, the results of cauterizations or the prolonged use of pessaries, he had employed a similar method with success, and considered it preferable to all others.

M. Ricord, without entering upon the questions already discussed, drew attention to certain hyperæsthetic conditions of the neck of the uterus and of the vagina, sometimes the consequences or complications of divers displacements or deviations. The hyperæsthetic conditions which give rise to insupportable pains, and sometimes to serious consequences, do not yield to the means of treatment at present employed. In a great number of patients relieved by the recumbent posture, or in whom the pain even completely ceases when in certain positions, when there is simply deviation or displacement, the various belts by augmenting the pressure increase the pain, and pessaries of all forms and composition, which press upon the painful parts, are also insupportable. To relieve these pains it is necessary to displace the uterus from the position in which it causes the pain, and to isolate it, without the means by which this is accomplished pressing against the sensible parts. He believed, with the majority of physicians, that the greater number of women affected with deviations or flexions of the uterus, and falling-down of various degrees, did not even suspect it. Further than this, that the position assigned by anatomists as that of health, was rarely met with, and that many positions we were in the habit of considering as disease, were the natural conformation of the individual, when by altering which we ran a danger of inducing pains and other symptoms. Nevertheless, many females only suffer when the uterus, even healthy, rests in some particular position. To prevent this he had invented an instrument which would support the uterus in a proper position, without entering the cavity of the organ or resting on the vagina. But like all instruments which excited any pressure, it might occasionally be followed by ulcerations and severe symptoms. In conclusion, he considered that as the intra-uterine pessary might be considered serviceable when carefully applied to the proper cases, he thought it should not be entirely rejected.

M. Robert, as a member of the commission, felt it necessary to explain wherein he differed from the reporter. M. Depaul adopted the doctrine of Lisfranc and Dubois, that deviations of the uterus were inoffensive, and only produced troublous consequences when combined with other pathological conditions. This he considered contrary to observation. For example, a healthy female, on making an effort, or falling upon the breech, feels, at the same instant, a pain or cracking at the lower parts of the stomach. From this moment she suffers more or less; the menstruation becomes disordered; and the uterus is found retroverted, painful, swollen, &c. In these cases he considered the retroversion as the result of the accident, as the first step in the disease, and the cause of the pain, swelling, dysmenorrhœa, &c. He also considered that prolonged lying on the back would produce deviation of the uterus, having observed, in two cases, complete retroversion after death in women who had long been confined to bed in this position. There were no symptoms during life of any uterine affection. In other cases serious consequences follow deviations, which require direct means for their reduction. Displacements following chronic metritis, uterine catarrh, or inflammation of the cellular tissue surrounding the uterus, were observed chiefly after severe confinements, or abortions. When the deviation is consecutive to the organic alterations, we must treat those alterations previous to attacking the displacement. But can we suppose that it is unimportant to leave the uterus in the unnatural position which it occupies? When the uterus is retroverted, it is unfavorably placed for the circulation of the blood; by resting on the rectum, pain is occasioned by the passage of the fæces; by pressing against the sacral nerves, it produces pain, which tends to excite a troublesome irritation of the nervous system. These facts he considers ought to be taken into serious consideration. As to diagnosis, he endeavored to prove that this was frequently very difficult; that the pathognomonic signs indicated by Velpeau and Malgaigne—notable decrease or entire cessation of pain on assuming the recumbent posture, and the way in which they bore the hypogastric belt—were inconclusive; and that the other symptoms, as weight at the

perineum, constipation, frequent desire to pass the urine, pains in the groins, &c., were also present in the other organic affections of the uterus.

M. Depaul, before replying to the various objections, remarked, that the principal question was whether intra-uterine pessaries lead to permanent replacement of the uterus, and whether their use did not so frequently entail serious consequences, that their farther use ought to be removed, although their utility to a certain degree was acknowledged. M. Huguier had stated that the intra-uterine pessaries ought only to be used in those cases which resisted all other means of treatment. He could fearlessly affirm that these were scarcely met with, during a long career; whilst M. Huguier had abandoned this method, either in consequence of its dangers, or from its inutility. When employed as a cure for amenorrhœa, it was impossible to say whether the discharge was menstrual, or only accidental hemorrhage. He contended that he had shown from the observations of those favorable to the use of pessaries, that the influence of displacements had been greatly exaggerated. "M. Hervez de Chegoin, had been more severe than himself in his judgments respecting intra-uterine pessaries, the facts published not leaving the least doubt in his mind of the extreme danger of this method of treatment. He protested against the injustice of M. Caseaux's accusation that he had quoted only the unfortunate and suppressed the successful cases. He had mentioned all he knew. Where were the successful cases to be found? If M. Caseaux knew of them, why did he not give the cases? The opinion that deviations were unimportant deformities without producing any injurious influence on the health of the female, was supported by his own researches, and in perfect accordance with the opinions of most celebrated men, and particularly Lisfranc and P. Dubois. Moreover, the practice of M. Caseaux was not in accordance with his theory. For in a case communicated to M. Depaul, where there was engorgement of the neck of the uterus with ulceration, and complicated with procidentia and retroversion, he first subdued the condition of neck of the organ, and afterwards applied a pessary (Gariel). Unless he could produce observations and not assertions only, M. Depaul must continue in his opinion, which is founded on numerous facts. It is much to be regretted, moreover, that he did not mention the precautions by which the uterine sound might be used without unfavorable consequences. After the numerous facts contained in the report, and those communicated by M. Dubois, there did not remain any doubt of the accuracy of his statements—that when the uterus was flexed it was never restored, or when displaced never returned to what was considered its natural position. Did not these facts overturn the doctrine on which the use of the intra-uterine pessary was founded? The benefit sometimes derived from this use being attributed to the other means simultaneously employed, and to the modification induced in the sensibility of the organ. Amussat and Velpeau, had both used the intra-uterine pessary many years ago, but soon gave it up, in consequence of the serious consequences following its employment. Nor had they in their subsequent practice again employed it, although they now spoke in its favor. Was it nothing that twelve females, suffering from uterine affections which did not compromise their lives, and which might be relieved and cured by safe means, had died from the employment of these pessaries? Was it nothing that an infinitely greater number of cases of metritis, peritonitis, pelvic abscesses, hemorrhages, nervous affections, &c., had occurred, which, although they were subdued by active measures, yet caused considerable anxiety and great danger to the patient? Was it nothing that numerous abortions had been induced, and that a new method of criminally inducing this had been opened out? M. Depaul terminated his reply by submitting the following conclusions, in the name of the commission, with the exception of the third, in which he was at variance with his colleagues.

1. The cases communicated to the Academy, together with many others on record, prove that the use of the intra-uterine pessary very often gives rise to serious accidents, and even sometimes to death.

2. In the rare cases where this instrument has appeared productive of advantageous results, it has not been proved that it has always acted by replacing the uterus.

3. In some exceptional cases where the deviations of the uterus have occasioned serious functional derangements, and all known therapeutical means have been tried in vain, the application of the intra-uterine pessary may be tried as a last resource.

On some of the Diseases of Women admitting of Surgical Treatment. By ISAAC BAKER BROWN, F.R.C.S., Surgeon-Accoucheur to St. Mary's Hospital. (8vo. 1854, Churchill, pp. 288.)

Most of our readers are doubtless familiar with the skilful and successful surgical operations of Mr. Baker Brown, as reported from time to time in the public journals, and to such this volume will be very acceptable. It consists of thirteen chapters, or rather essays, upon diseases or accidents which Mr. Brown has endeavored to remedy by surgical operations. The subjects are lacerated perineum, prolapse of the vagina, prolapse of the uterus, vesico-vaginal fistula, recto-vaginal fistula, lacerated vagina, polypus of the uterus, stone in the female bladder, vascular tumor of the meatus urinarius, imperforate hymen, encysted tumor of the labia, diseases of the rectum from certain conditions of the uterus, and ovarian dropsy. Different sections are illustrated by engravings, and especially by good engravings of the various instruments employed by the author.

We think that the first chapter is perhaps the best in the book, and that the treatment proposed is the greatest improvement upon the ordinary method. After speaking of the frequency, causes, varieties, and prevention of laceration of the perineum, the author thus graphically describes the consequences:—

“The consequences entailed by a laceration of the perineum will depend on its extent: they may be slight and temporary, or so severe as to render life miserable; the latter only require to be detailed, and to any one who attentively considers the relative anatomy and functions of the parts, they will seem very obvious. The triangular chasm of which the perinæum forms the floor, has the rectum tending downwards and backwards as its posterior wall, and the vagina passing downwards and forwards as its anterior; consequently, when the two lips of a ruptured perinæum are drawn asunder, the prominent convexity of the posterior wall of the vagina is brought into view with its transverse rugæ; and when the injury is of old date, all this is much hypertrophied and hardened. Again, the laceration may have penetrated so as to lay open the vagina, tearing asunder the sphincter ani and recto-vaginal septum, thus converting the opening of the two canals into one.

“Acting as the perineum does in the way of a counterpoise to the downward pressure of the diaphragm on the abdominal and pelvic viscera, its laceration deprives the latter of their natural support; hence the proclivity to prolapse of the uterus, of the bladder, and of the rectum, and their attendant symptoms—dragging pains from the loins, interference with the functions of the bladder, leucorrhœal discharges, incapability of exertion, even of ordinary exercise, inability to go up or down stairs. Again, when the sphincters are torn, their functions are lost, the fæces and intestinal gases pass uncontrolled. Hardened fæces may certainly be in a measure retained, but when at all fluid, they will escape quite involuntarily, entering the vagina and adjoining parts. Such circumstances necessarily confine the afflicted person to her house or room, exclude from all society, and render existence miserable. They may even induce disgust on the part of the husband towards his unfortunate wife, and render her companionship odious. No patients, indeed, ought to be more the objects of our profound commiseration, and of our liveliest sympathy. If any condition could incite us to devise remedies, it surely would be this, in which the patient may have all the bodily and mental functions in health and vigor, but be by this accident so cut off from all the pleasures and comforts of existence, that death seems preferable to life, and any means appear justifiable and are sought for, which promise temporary quiet or oblivion.”

A very full account is given of the different attempts which have been made by German, French, and British practitioners to remedy this accident; after which Mr. Brown proceeds to describe his own method, premising a notice of the variation in the treatment required in three of the four species or degrees of laceration he has described. The period of operating may be immediately after labor, or subsequently, but the sooner the better, and the counter-indications are pregnancy beyond the fourth month, or suppuration and inflammation. We do not ourselves feel quite so certain of the safety of exposing a patient to the operation immediately after labor.

The proper instrument (p. 34) being provided, the bowels emptied, and the

parts cleansed, the patient is to be placed under chloroform, and "placed in the position for lithotomy, the knees well bent back upon the abdomen, and all hair closely shaved off about the parts. The sides of the fissure should be held by an assistant, so as to insure sufficient tension for the operator; a clean incision is now to be made about an inch external to the edges of and equal to the fissure in length, and sufficiently deep to reflect inwards the mucous membrane, and so to lay bare the surface as far as another incision on the inner margin. The denudation of the opposite side of the fissure is then to be practised in a similar manner, and the mucous membrane from any intermediate portion of the recto-vaginal septum to be also pared away.

"This denudation must be perfect, for the slightest remnant of mucous membrane will most certainly establish a fistulous opening when the rest of the surfaces have united.

"Some operators, especially the continental, remove the mucous membrane by scissors, but this is a clumsy and unsafe method, and the knife will be found to effect the purpose quicker and better.

"*Division of the Sphincter.*—So soon as this stage of the operation is completed, the sphincter ani is to be divided on both sides, about a quarter of an inch in front of its attachment to the os coccygeus, by an incision carried outwards and backwards. The incision should be made by a blunt-pointed straight bistoury, which, having been introduced within the margin of the anus, guided by the forefinger of the left hand, is quickly and firmly carried through the fibres of the muscle and through the skin and subcutaneous areolar tissue to the extent of an inch, or even two, external to the anal orifice.

"The degree of relaxation to be sought must be regulated by the extent and character of the laceration; it being remembered that the freer the incision the greater will be the amount of relaxation obtained. In every case, muscular traction must be destroyed, for so long as it exists it will oppose the union of the parts.

"*Insertion of the quill sutures.*—The sphincter having been divided in the manner just stated, the thighs are to be approximated, and then the quill sutures introduced. The left denuded surface and tissues external to it being firmly grasped between the forefinger and thumb of the left hand, a strong needle carrying a double thread is plunged, with the right hand, through the skin and subjacent tissue an inch external to the pared surface, and thrust downwards and inwards beneath it, until its point reappears on the edge of that surface; it is then introduced at the corresponding margin of the denuded space on the opposite side, and made to traverse beneath it in a direction upwards and outwards until it escapes at a point equidistant from the external margin with that at which it entered on the left side. Each of the three sutures is to be introduced in the same way, the one nearest the rectum first.

"The sutures are double, to allow them to inclose the quills, or (as actually used) the pieces of elastic catheter or bougie, around which they loop on one side, and are tied over, by their free ends, on the other. For sutures I prefer stout twine, well waxed, to silk, as I believe it to be less irritating and productive of less suppuration.

"*Insertion of interrupted sutures.*—Having firmly secured the three sutures upon the bougies, the sides of the fissure become approximated,—the denuded surfaces in apposition. To bring together the outer margins, along the line of the skin, it is advisable to pass three or four interrupted sutures. If this be carefully done, union of the skin will speedily take place, and that of the deeper parts be materially facilitated. As an accessory or superficial suture, the twisted form is used on the Continent; but I think the interrupted more simple, and have found it answer completely.

"I should recommend, previously to bringing the operation to a close, that the forefinger of the right hand be passed into the vagina, and that of the left into the rectum, so as to ascertain that apposition is complete throughout.

"Lastly, the parts having been well cleansed by sponging with cold water, a piece of lint steeped in cold water is applied, and over it a napkin kept *in situ* by a T bandage."

The after-treatment consists in perfect quiet, placing the patient on her left

side, ice internally, and two grains of opium at once, and one grain every four or six hours. Beef-tea and arrow-root may be given, but not wine, unless there be signs of flagging. The urine should be drawn off every four or six hours for eight or nine days. The deep sutures should be removed on the third or fourth day, with hospital patients; on the fifth or sixth with private patients. On the sixth or seventh day the external sutures may be removed.

The reader will perceive that the use of chloroform, the incision of the sphincters, the improved diet, and the constipation of the bowels, are the distinguishing characteristics of the operation, as practised by Mr. Brown. Against each of these points some objections have been raised, but we think unsuccessfully, and we frankly accept Mr. Brown's modifications as decided improvements. The results of the 18 cases he has appended, are, in fact, his best justification.

Vaginal cystocele, which, when considerable, is a most distressing affection, Mr. Brown proposes to remedy by a plastic operation, consisting in the removal of a strip of mucous membrane from the posterior edges of the vaginal orifice, and a strip of mucous membrane from each side of the vulva, the different steps of the operation resembling the one already described, as well as the after treatment. Five cases of cure are given.

The operation for *vaginal rectocele* is in principle the same, and the results, in the three cases related, are equally satisfactory.

Mr. Brown has bestowed much care upon that "opprobrium of surgery," *vesico-vaginal fistula*, and with some success, for out of four cases related by him, one was cured, and remains so; another was cured of the fistula, but died of pleurisy, and the two remaining cases were benefited. Every one who has tried, knows that it is easy to reduce the opening; the difficulty is "to put in the last stitch" successfully. Mr. Brown's method of operating is as follows:—

"The patient should be placed either in the position for lithotomy, on her back, or still better, in the prone position as recommended by Dr. Marion Sims, as follows: 'The knees must be separated some six or eight inches, the thighs at about right angles with the table, and the clothing all thoroughly loosened, so that there shall be no compression of the abdominal parietes. An assistant on each side lays a hand in the fold between the glutei muscles and the thigh, the ends of the fingers extending quite to the labia majora; then, by simultaneously pulling the nates upwards and outwards, the os externum opens, the pelvic and abdominal viscera all gravitate towards the epigastric region, and stretch this canal out to its utmost limits, affording an easy view of the os tincæ, fistula, &c. To facilitate the exhibition of the parts, the assistant on the right side of the patient introduces into the vagina the lever speculum, and then, by lifting the perinæum, stretching the sphincter, and raising up the recto-vaginal septum, it is as easy to view the whole vaginal canal as it is to examine the fauces by turning a mouth widely open up to a strong light.'

"Another very good plan for placing the patient has been recommended by Dr. Hayward, of Philadelphia, as follows: 'The patient being previously etherized, the bladder is brought down by introducing a large-sized bougie (one made of whalebone, highly polished, is to be preferred) into the urethra, to the very fundus of the bladder, and carrying the other end up to the pubis. In this way the fistula is readily brought in sight. Its edges can be pared with the scissors or a knife; though usually both these instruments are required; and this part of the operation is much facilitated by holding the edges by means of a double hook. It is not difficult to dissect up the outer covering from the mucous coat of the bladder, to the distance of two or three lines. The needles are then to be passed through the outer covering only, and as many stitches must be introduced as may be found necessary to bring the edges of the fistula in close contact.'

"The edges are to be pared by making an incision about three lines on each side of the fistulous opening, through the mucous membrane of the vagina (by means of a sharp-pointed knife with a long handle, as described in fig. 7), and then carefully dissecting off the mucous membrane; a pair of long forceps made on purpose (see fig. 8) being used to seize it. This done, a needle armed with silver or platinum wire, if that substance be used, is passed three or four lines from the edge of the incised surface, and made to penetrate the vaginal mucous membrane, and some of the fibres of the muscular coat of the bladder, but not

through its mucous coat; to ascertain this it is better to introduce the little finger of the disengaged hand through the urethra into the bladder. The needle should next be carried through the opposite side of the fistulous opening, and brought out at the same distance from the edge of the denuded surface as it was first inserted. Two, three, or more sutures, according to the size of the opening, should be introduced in a similar way. Various forms of needles have been suggested for this operation. I myself use those made at my suggestion by Mr. Blaise, of the firm of Savigny & Co."

Then follows a description of these needles, illustrated by excellent cuts, for which we must refer our readers to the work itself, and after this Mr. Brown proceeds:—

"So soon as the sutures are made fast, free incisions should be made through the vaginal mucous membrane, and through some of the muscular fibres of the bladder, distant about four to six lines on each side of the closed wound, so as to relieve any traction upon the apposed surfaces. The principle of this expedient is precisely similar to that recommended in my operation for ruptured perineum, as also in that for cleft palate, as recommended by Ferguson, and is one of the greatest practical importance. This is fully dwelt on by Jobert.

"*After-treatment.*—The patient should be placed on a water-cushion on her side, the hips being elevated and the knees flexed upon the abdomen. A catheter should be introduced, bent in a serpentine direction, so that the end within the bladder is turned up behind the arch of the pubes, on which it rests. To the other extremity should be attached an elastic bag, capable of holding from four to six ounces. Two grains of solid opium should be given immediately, and one grain every four or six hours for the first twenty-four hours, and afterwards once in twelve hours until the sutures are removed. This will prevent pain, and also keep the bowels quiet. A bland and generous diet should be allowed, and wine is often required from the very commencement. The vagina should be syringed once a day with cold water, so as to insure cleanliness."

The special point in the operation for *polypus uteri*, recommended by Mr. Brown, consists in the excision of the morbid growth immediately after the application of the ligature, instead of either waiting twenty-four hours, or until the polypus is separated by sloughing. We do not admire the latter plan ourselves, but we think that when the stalk of the polypus is thick, and probably containing large vessels, it is better, upon the whole, to wait a little for the effects of the ligature. The operation is thus performed:—

"The patient is placed in the position for lithotomy, under the influence of chloroform, the vagina gently opened by retractors, when the polypus is seized by a pair of vulsellum forceps with long handles, and if the pedicle be small, a ligature is passed round it by the fingers; if large, a long needle (represented in figures 1 and 2), carrying a double ligature, is passed through the centre of the pedicle and tied on both sides. The polypus is then removed either by a pair of curved scissors or a blunt-pointed bistoury. A piece of lint soaked in a strong solution of alum is then applied to the cut surface, so as to prevent any chance of even slight hemorrhage. If hemorrhage should occur, even after this application, the actual cautery should be applied through a speculum."

We quite agree with Mr. Brown, that the ordinary operation for *imperforate hymen* is not quite without danger, though we cannot say that any explanations as yet given have satisfied us of the mode in which it is produced, nor have we seen the ill effects of the crucial incision which Mr. Brown describes. At the same time we are not prepared to deny that this proposal is an improvement. He remarks:—

"When the surgeon is consulted in the case of a young female before the age of puberty, on account of an occlusion of the vagina, it will generally be found that the united parts may be separated by the thumb of each hand being applied, and some little force being used, the child being placed in the lithotomy position. Cutting is rarely required in children. A piece of oiled lint should be introduced to prevent reunion of the separated parts, after they have been thus torn asunder. If the obstruction is of a longer standing, and the tissues are thickened and indurated, then the question to be considered is, how is it to be divided? Every author who has written on the subject recommends a crucial

or stellate incision. This leaves the divided portions of the hymen to retract and remain on each side of the vaginal orifice; and when the operation is performed in the earlier stage, before puberty, or a few years afterwards, these relics of the thickened hymen may create no irritation of consequence; not so, however, when the patient has passed her 25th or 30th year; the divided portions do not shrivel or pucker up, so as to create no inconvenience. On the contrary, vaginitis is very apt to be set up by the friction of these surfaces upon each other, produced by every movement of the body. It is easy to understand how inflammation thus set up in the mucous membrane of the vagina may extend into the uterus, Fallopian tubes, and ultimately to the peritoneum. I would therefore throw out the question, whether the frequent occurrence of peritonitis after this operation, simple as it appears to be, may not thus be explained.

Being strongly convinced that these two methods of dividing the hymen, namely, by the crucial and stellate incision, attended as they are by so many inconveniences, and, as I believe, dangers, are not so eligible as a more perfect surgical procedure, by which the whole of the abnormal structure is at once removed, I recommend that the hymen be removed entire by a circular incision at the point of its junction with the labia."

That anteversion and retroversion of the uterus may produce ill effects by pressure upon the rectum, is what we might expect in many cases.

"The conditions of the uterus under consideration act on the patient injuriously in two ways: first, by mechanical pressure; and, second, by inducing vascular disturbance like that present in themselves. An enlarged uterus drags on its lateral ligaments, elongates them, subsides lower down in the pelvis, and so comes to press on the lower bowel, to interfere with its muscular action and the circulation through its bloodvessels, and to irritate its mucous lining. At the same time any hyperæmic state of the uterine vessels causes an increased fulness of the hemorrhoidal, and a determination of blood to them. Thus, by reflecting on the anatomy of the parts, it will easily be understood why and how diseases of the rectum, such as hemorrhoids, prolapsus, fissure, stricture, fistula, as well as disordered functions of the bowel, as constipation, dysenteric irritation, &c., do sometimes result directly, either from the mechanical pressure of an enlarged uterus, or simply from the derangement of the hemorrhoidal circulation, resulting from uterine disease.

"By retroflexion and retroversion, the fundus uteri is thrown backwards against the rectum, and will consequently exercise an amount of compression on that viscus, according to its degree, to the bulk of the uterus and the capacity of the pelvis. Retroversion is occasionally so complete that the fundus uteri depresses the posterior peritoneal cul-de-sac, and even descends below the level of the cervix. Now, as deviation of the uterus posteriorly is no unfrequent consequence of distended bladder—a common occurrence in females—owing to their natural reserve, and the restraint imposed by our social habits, and as its ulterior effects on the rectum must be expected, we so arrive at one reason for the great prevalence of diseases of the rectum among them.

"In anteversion and anteflexion, the fundus falls forwards against the bladder, and thus the cervix uteri will impinge against the rectum more or less, according to the extent of the deviation, the size of the womb, especially of its neck, the capacity of the pelvis, and the degree of fulness of the bladder, which in these displacements has its outlet more or less obstructed.

Mr. Brown's method is first to remove or remedy the displacement, and then treat the secondary affection, and we are glad to perceive that his endeavors to effect the former are by removing the causes upon which the displacement depends, and not by mere mechanical support.

The last and longest essay is that upon ovarian dropsy, and without entering upon the question as to pathology or symptoms, we shall endeavor to lay before our readers the views and operations which are peculiar to Mr. Brown. As, however, the diagnosis of these tumors is of extreme importance, we beg our reader's special attention to this section—it is too long for quotation, but it is as valuable and lucid a summary as any we know. In tapping the ovary Mr. Brown lays the patient on her side, and prefers a large instrument, but he correctly states that by this operation alone we have no reason to expect a cure.

Not so, however, when it is followed by pressure, for he has given us two cases of cure.

"Tapping with pressure should always be combined, both as a matter of precaution when the origin of the cyst is obscure, and as affording an increased probability of cure in any case. Like every other simple operation, the application of pressure may fail from inattention and carelessness. First of all, compresses of linen or lint should be so arranged as to present a convex surface, adapted as nicely as possible to the concavity of the pelvis. Over these compresses straps of adhesive plaster should be applied so as to embrace the spine, meeting and crossing in front, and be extended from the vertebral articulation of the eighth rib to the sacrum. Over this strapping either a broad flannel roller, or, still better, a band with strings and hoops which tie in front, may be applied; or a well-made bandage, which by lacing in front may be gradually tightened, as made at my suggestion by Mr. Spratt, 2, Brook Street. These bandages must be prevented from slipping upwards by a strap around each thigh. Both the compresses and the bandages will require watching and adjusting from time to time, lest by unequal pressure, the bowels or bladder be subjected to inconvenience. Also the crest of the ilium should be guarded with thick buffalo skin or amadou plaster.

"The effect of pressure, before tapping, is fourfold in its operation. It sometimes retards the filling of the cyst; it may prevent the increase of the tumor; it sometimes brings about absorption of the whole contents; or, lastly, it may produce a rupture of the cyst into the vagina, rectum, or peritoneum. After tapping, pressure tends to prevent the refilling of the cyst, probably by compressing mechanically the bloodvessels which supply the fluid. The use of pressure is countenanced by its known good results in dispersing various tumors, or in arresting their growth. When tapping with pressure, is resorted to as a means of cure, or even with the view only of retarding the process of ovarian dropsy, medicines to stimulate the functions of the various abdominal organs, to correct faulty secretions, and generally to improve the health and strength, should also be administered.

"The use of tapping with pressure and auxiliary medical treatment, I consider most applicable to unilocular cysts without adhesions, with clear and not albuminous contents, and where time and the condition of the patient admit of its persevering application. There are also cases of multilocular disease, and others where adhesion exist, where pressure may do material good, and retard the growth.

"This plan of treatment I first suggested in 1844, and the results have been published from time to time in *The Lancet*, not only by myself, but by other practitioners who have been induced to give it a trial. For the particulars of those already published, I must refer the reader to *The Lancet*.

"Besides these cases which have appeared in *The Lancet*, I have had several others which have proved entirely successful. Certainly, the result of some has disappointed me, where I had hoped to have effected a permanent cure; but, even in such, great benefit has been derived from the plan, the patients have regained health and comfort, and the disease has for a time been suppressed. Further, in some instances where ovarian dropsy has reappeared, it has been in consequence of the development of new cysts, an event to be wholly prevented only by resort to extirpation of the entire diseased ovary."

The operation from which Mr. Brown seems to expect much, is Le Dean's proposal of establishing an artificial oviduct with the variation of "making the opening in the semilunar in preference to the mesial line." Three cases are given, and though the patient died, Mr. Brown does not attribute that to the operation, which he thinks succeeded to a certain extent.

"The excision of a portion of the cyst is an operation more free from danger than complete extirpation, and less tedious in its results than the formation of an artificial oviduct. But it has a limited application. The conditions likely to favor its success, are: "The cyst unilocular, its walls thin, and possessed of little vascularity, very few or no adhesions, the fluid only slightly albuminous, and of light specific gravity. When these favorable circumstances coexist with unimpaired general health, or very little ailment, then only should this operation

be performed. If pressure had been tried without success, or was interdicted by the existence of prolapsus uteri, or by any other objection, an additional reason to try this operation would exist. Now, by preferring the longer incision and being prepared to extirpate the whole cyst if necessary, the surgeon will be able to explore the parts to ascertain which operation is most eligible. For instance, if the walls of the cyst are found thicker and more vascular than was expected, it will be safer to proceed to extirpate the entire cyst, after tying its pedicle, than to run the risk of profuse hemorrhage by cutting out a portion. Or, if the cyst is found to be thin, unilocular, unattached, and unvascular, and the fluid thin, then the plan of excising a portion may be adopted with reasonable prospect of success.

"The operation consists in excising a portion of the cyst, returning the remainder into the abdomen, and then, closing the wound with sutures, to allow any fresh fluid secreted by the remaining portion of the cyst, to escape into the cavity of the peritoneum there to be taken up by absorption and discharged by the kidneys. This method of treatment was suggested to my mind (before I was aware that it had been previously practised) by reflecting upon the numerous cases on record in which spontaneous recovery has occurred after an accidental rupture of the cyst and subsequent copious discharge of urine. One case especially impressed me with the importance of attempting such an operation; namely, that of a young lady, who had been long treated by Dr. Henry Davies for ovarian dropsy. In this case spontaneous bursting was followed by complete disappearance of the disease and non-recurrence of dropsy. She died ten years afterwards of inflammation of the dura mater. On the *post-mortem* examination it was found that the cyst had collapsed and shrunk, and that a fissure of some size existed, which was probably the original rent through which the cyst had burst."

Two cases are given in which this method succeeded, though not without symptoms arising which caused much anxiety.

Mr. Brown is by no means disposed to take an unfavorable view of the operation of ovariectomy when undertaken in suitable cases, at a suitable period, and under suitable conditions. These latter are thus enumerated:—

"1. The surgeon should be satisfied by most careful and repeated examination,—that the tumor is ovarian; and those with whom he may consult should take equal pains to form an unbiassed opinion. The diagnostic signs it is not necessary here to repeat.

"2. That the tumor is increasing, and that the disease will be likely to progress to a fatal issue if allowed to take its course.

"3. That such of the different modes of treatment already described, as appear to be suitable to the case, excepting the excision of a portion of the cyst, have been fairly tried with lasting benefit.

"4. That the tumor is not cancerous.

"5. That the patient is not so reduced in her general health and vigor, as to render her an unfit subject for a formidable operation.

"6. That there is no evidence of the existence of adhesions.

"7. That the fluid is not highly albuminous.*

"These conditions being present, the next question is, at what stage of the disease should the operation be performed? Should we wait till life is brought into immediate and imminent danger, so that any measure, however desperate, might be justifiable, which presented the faintest prospect of affording relief:—or should the earliest period be chosen after the necessity of the operation has become unequivocally apparent? On this question, a variety of opinion exists; some of the advocates for the operation only approving of it as a forlorn hope; others, believing with Dr. Drutt, that 'it is by far the *most merciful* plan of treatment *if adopted early*,' and that 'the reason for running the risk will be much the strongest in the case of a young, healthy person, whose life, if spared, might be long and valuable.' I am persuaded that on this question hang chiefly the

* Believing as I do that the highly albuminous condition of the fluid exhausts the system in a similar way to that of albuminuria from disease of the kidney, I consider that it contra-indicates an operation as clearly as the latter disease. The nature of the contents may be readily discovered by withdrawing a little by an exploring needle.

results, whether fatal or favorable, of the operation; and I therefore adhere most strongly to the latter opinion. I consider that the risks of the operation are becoming greater every year the disease exists. The tumor and its coats and pedicle are always growing, its chances of contracting adhesions are multiplied, and the patient is getting older, and most probably less able to endure the shock every year she lives. Indeed, I should as soon be persuaded to delay the operation for strangulated hernia till the symptoms of approaching gangrene became apparent, as to delay to extirpate an ovarian cyst, when I had once determined that it must be done. I believe that if early, and otherwise favorable cases, were selected for operation, the mortality would be very small. This opinion I give advisedly, after a thoughtful review of all the cases on record, as well as of my own. After tapping and pressure have failed, and the cyst begins to fill, the chances of success in ovariectomy, as well as in the operations above described, will be, *ceteris paribus*, determined by the promptness with which the operation is performed; and it is very important that it should not be deferred till the strength of the patient is exhausted by the disease, or abdominal or pelvic mischief has been done by the weight or pressure of the tumor. I therefore differ from those who advise that no operative procedure take place, until the tumor seriously interferes with the healthy action of the abdominal organs.

As to the preparations for the operation, its mode of performance, and subsequent dangers we prefer to let Mr. Brown speak for himself.

"1. If the weather be cold, the patient should have, ready to wear, a flannel waistcoat, and a pair of flannel drawers: the waistcoat should be put on before the operation.

"2. She should have a warm bath the night before the operation, to cleanse the skin, and thereby insure free perspiration after the operation.

"3. The bowels should be opened by a dose of ox-gall or castor-oil, and an enema, on the morning of the operation day.

"4. A hot water-bottle should be prepared for her feet.

"5. There should be a thermometer in the room, and the temperature should be kept systematically at not lower than 66 degrees, nor higher than 70 degrees. A kettle should also be boiling on the fire, so as to make it possible to insure a degree of moisture in the air by the steam. This is especially requisite when the wind is in the east, or the weather hot and dry.

"6. If the operation take place on the bed which the patient is afterwards to occupy, the lower part of it should be prepared and guarded by a macintosh sheet and an old blanket, which can be afterwards removed. There should be a hassock or stool for the feet to rest upon. The feet and legs should be clothed in warm stockings, and the hands and arms enveloped in a warm flannel gown.

"7. As the patient will have chloroform administered, she should not take any food for some hours previous to the operation; and to avoid sickness afterwards, a supply of ice should be procured for her to suck for two or three hours before the operation. *This is of much consequence.*

"8. There should be plenty of hot water in the room, in which, in cold weather, both the operator and his assistants should immerse their hands before touching the patient; and there should be from three to six basins of warm water ready for immersing sponges for warming the flannels, &c.

"9. The duties of each assistant should be clearly assigned and understood before entering the room, so as to avoid confusion, and also to *save time*, an important point when the peritoneum is exposed.

"10. Four or six large needles should be got ready, armed with the best twine, well waxed, for the interrupted suture; and one large needle to carry the double ligature (also of twine, not of silk) for the pedicle. Several smaller ligatures for bloodvessels should also be ready; and a flannel bandage to go round the abdomen after the operation is completed; also a supply of lint and a few adhesive straps.

"11. *Instruments.*—One or two scalpels, a pair of scissors, a pair of vulsellum forceps, a pair of good common forceps, tenaculum, trocar, and canula of large size, together with the needles and ligatures, should be ready on a tray.

"*Lastly.*—As much will depend upon the after-treatment, it will be well to arrange beforehand that the operator, or some other competent surgeon, should

remain with the patient all night. Indeed, she should not be left for more than two hours at a time for the first three or four days.

Mode of Operating.—"The patient being placed conveniently on her back, and brought under the influence of chloroform, an exploratory incision, from two to three inches in length, should first be made in the linea alba. Having divided the peritoneum and reached the cyst, two or more fingers should be passed over its surface to ascertain if adhesions exist;—if these are slight and recent, they should, if possible, be broken down by the fingers, or if they are few, and small in diameter, so as to bear division, they may be first tied to guard against hemorrhage, and afterwards divided; but if they are spread out to a considerable breadth, it is better to desist from any further procedure with a view to extirpation. If, on the contrary, there are no adhesions, or only such as can be easily broken, the incision should be enlarged to the extent of four inches, or more if necessary; the next step is to tap the cyst or cysts with a proper trocar and canula, and in the evacuation of the fluid, to take care that none of it escapes into the cavity of the abdomen. Then, if there is only one cyst, and that not thick nor vascular, a portion of it only may be excised, in the manner described in the section 'On Excision of a Portion of the Cyst.' If the cyst, however, should be found to be thick or vascular, or multilocular, it will be the safest procedure to have recourse immediately to complete extirpation in the following manner. The pedicle of the tumor is to be taken in the left hand, and gently drawn outwards from the pelvic cavity,—an assistant carefully keeping back by warm flannels the bowels and omentum. The course of the blood-vessels in the pedicle should now be carefully observed, so that the latter can be safely punctured by a scalpel or bistoury, and through the opening thus made an aneurismal needle, carrying a double ligature of the strongest twine, be passed, and firmly tied on each side of the pedicle. Mr. Wilson advises, that instead of passing a ligature round the pedicle, each vessel should be tied separately. This some regard as an important improvement. This ligature should be passed as near to the tumor as possible, so that, by the entire length of the pedicle being preserved, the ligatured end may be kept external to the abdominal cavity together with the ligature, as recommended by Messrs. Duffin and Erichsen. This done, the tumor should be removed by dividing the pedicle half an inch from the ligature, which should be given to an assistant and held at the inferior end of the opening. The operator then closes the wound—and this, I need hardly say, should be done, as in all operations exposing the peritoneum, as soon as possible—by introducing deep sutures about an inch from the incised edges, through the parietes of the abdomen, taking care to avoid the peritoneum. These sutures should be about half an inch apart. The edges of the wound should then be more carefully brought together by superficial interrupted sutures occupying the intermediate spaces between the deep ones. It now only remains to prevent the end of the pedicle and the ligatures from returning into the abdomen. For this purpose, a common director, with its convex surface turned towards the abdomen, should be passed through the ligatures, so as to be firmly held by them at right angles to the wound. The ends of the ligatures should now be secured to the abdomen by adhesive plaster, and the wound dressed with common water dressing. This done, the abdomen must be supported by a many-tailed flannel bandage, comfortably tight, the patient be placed in bed, and warmth applied to the extremities. Two grains of opium are to be at once given, and one grain repeated every three or four hours until pain is allayed. Ice, milk, barley-water, or weak broths, should constitute the diet for the first twenty-four hours; afterwards stronger animal broth may be allowed, and wine, if the condition of the patient admit of it. It is better, if possible, that the bowels should be confined for four or five days after the operation. The bladder should also be emptied every six hours by the catheter. The temperature of the room should be carefully maintained for the first week after the operation.

"I have not enjoined the use of any particular length of incision, for this matter must, I am of opinion, be regulated by the special circumstances of each case; the rule on the surgeon's part being to extract the cyst with the least

danger to the patient, and through the smallest practicable incision without incurring a risk of failure in the operation. A small incision, of an exploratory nature, should be the first; if the operation be proceeded with, it must be enlarged sufficiently to admit the extraction of the apparent cyst, and further increase will be very easy, if, by its peculiarly compound nature, its position or relations, or other circumstances demand it.

"The long, the median, and the short or small incisions, have each had their advocates, and their relative advantages been hotly debated; and statistics have been adduced to show that fewer deaths attend the smaller incisions. Such discussions I regard as of little moment, and the attempt to fix a certain length for the abdominal section in all cases, is frivolous. As well might operative surgeons debate on, or endeavor to fix the exact number of square inches the flap of an amputated limb ought to have, without reference to the muscularity or fatness of the extremity, or to any other special circumstance which ought to weigh in the management of each individual case.

"It is desirable, when the diseased ovarian mass of one side is removed and before the abdominal incision is closed, to look at the condition of the other ovary, which not uncommonly is also diseased, and when such is the case, may be at once removed. An instance of this sort is described by Dr. Peaslee, in the *American Journal of Medical Sciences*, for April, 1851, in which a cyst the size of a pullet's egg was discovered on the right ovary, and the whole organ was diseased. A double ligature was passed through the broad ligament, and the ovary removed; the ligatures were drawn out through the wound at the nearest point.

"The dangers to be apprehended after ovariectomy are—*a*. The shock of the operation; *b*. Hemorrhage; *c*. Acute inflammation—peritonitis; *d*. Inflammation of a low or typhoid character.

"*a*. Now that we have the benefit of chloroform, the dangers from the shock of the operation are greatly lessened. But in some of high nervous susceptibility and debilitated frame, the shock may be fatal or severely felt, even although chloroform has been employed during the surgical proceedings, and the patient has not regained consciousness until they are over and the wound dressed. Like similar cases from other operations, these demand the use of stimulants, and other means of support.

"*b*. Hemorrhage is, unfortunately, not so uncommon; the source of it being mostly from the cut pedicle or supporting base of the tumor. It will be seen, however, that in one of my cases the fatal bleeding had its source in the divided vessels of an adhesion; and it is this event which has induced me to recommend the tying of any divided bands of adhesion where they have any thickness, and do not readily break down before the finger. The tying of the stalk of the tumor, as I advise, will I think, generally provide against hemorrhage from it, care being taken to leave the end of the pedicle out of the wound. Hemorrhage may kill either by the exhaustion immediately induced, or by the peritonitis it kindles.

"*c*. Acute peritonitis in a more or less severe form is a most frequent occurrence after extirpation. Its origin we may trace to the natural effort of the system to close the wounds made in the tissues in the operation, by effusion of plastic lymph. Every precaution is to be taken against the advance of this inflammation, and its treatment must be based on the ordinary principles. Some of the cases given exhibit this casualty, its course, and the treatment adopted.

"*d*. Peritonitis of a low or typhoid type appears later than the preceding conditions; and is seen when any of the cut tissues put on an unhealthy appearance, and when, probably, some morbid excretions get into the blood."

We have thus endeavored to give our readers a knowledge of the contents of Mr. Browne's valuable volume. We have omitted to notice some of the lectures in which there is little or nothing original, and we have dwelt more fully upon those which appeared to us more excellent. We have also preferred allowing the author to speak for himself rather than attempt an abstract of his views in our own words, for which, we are sure, our readers will thank us. We need not repeat that we think this a valuable contribution to our library, for it was one

much needed, but we will add that the style is pleasant and readable, and the book printed and gotten up in a most creditable manner. We trust that before long, Mr. Browne may have more to tell us on these and other subjects.

Case of spontaneous premature Delivery thirty-six hours after the apparent death of the Mother. By Dr. MAYER. (*Medico-Chirurgical Review*, Oct. 1854.)

We place this remarkable case in this part of our volume, partly for its extraordinary nature, and partly for the light which it throws upon the problem of muscular contraction. We give the case as translated by Dr. Barnes from the original article:—

1. The case related by Dr. Mayer is one of remarkable interest. M. H., a well-nourished woman, æt. 45, felt the movements of the child for the fourth time in the middle of November. In March last, hæmoptysis and symptoms of inflammation of the right lung came on with some severity: these increased; and on the 31st, March, apparent death came on by suffocation. For the two previous days she had ceased to feel the child. She was removed to the dead-house at 4 P. M. on the 1st April. She had remained, in the meantime, on her back in a warm room, covered up in bed, undisturbed for thirty-six hours. All the members of the family, and others, visited the deceased from time to time, and occasionally sprinkled her face with holy water. No one remarked the death-distortion of the features, or any cadaverous odor. When the undertakers were drawing on a shroud, they observed between the genitals, a half-round, bright-red, smooth body, which they took for a prolapsus of the womb. There was a small spot of blood with fibrine in the bed, surrounded by a larger wet place. The men had not observed the rigor mortis, nor the general loss of heat, nor any cadaverous odor. Early on the 2d April, a few hours before the time for interment, men thought to examine the swelling they had seen the day before. Great was their astonishment to find, between the thighs of the corpse, a new-born female child, dead, and connected with the mother by the umbilical cord. Dr. Meyer being summoned, found no absolute evidence of death, such as are commonly found fifty-four hours after death. The interment was stopped. The body examined; several old adhesions were found in the right pleura, and a pleuritic exudation in the right side of the chest; red hepatization and great congestion of right lung. The uterus was of the size of the fist, free from gaseous development, and lying in an oblique direction from right to left, so that the os uteri, widely open, was found behind the horizontal branch of the left os pubis. The placenta was still in organic relation with the fundus uteri; the inner surface of the uterus showed no trace of beginning maceration; the cervix was of a dark bluish-gray, whilst the cornua uteri and the two sides were of a bright red. The uterus' surface not covered by placenta was covered with fresh black blood-clots, which could only be removed by the scalpel. Nothing found in the body could render it probable that death had taken place, as it appeared to have done, fifty-nine hours previously.

The body of the fœtus confirmed the account of the mother as to its age, which she estimated at 21 weeks.

From the remarks appended to this case by Dr. Barnes, Dr. Mayer appears to be puzzled exceedingly to account for birth under these circumstances. He strives to get over the difficulty by supposing that the patient was not actually dead, but only in a state of syncope or swoon. He even asks whether the delivery could not have been effected by the pressure of gas developed in the abdomen of the dead mother, though, not finding any gas, he is obliged to abandon this hypothesis.

Dr. Barnes says: "it seems highly probable that the sprinkling of the face with water may have excited some degree of uterine contraction, so that the labor had begun before the removal of the body to the dead-house." And he adds, "the expulsion of the fœtus was effected solely by the peristaltic and diastaltic action of the uterus."

For our own part the case appears to be a remarkable confirmation of the

views concerning muscular contraction which are advocated by Dr. Radcliffe, which views are "that muscle is *prevented from contracting* by the several vital and physical agencies which act as stimuli upon the muscle-volition, nervous influence, blood, electricity, light, heat, and the rest, and that *contraction happens on the cessation of stimulation* by virtue of the operation of that universal principle of attraction which belongs to muscle in common with all matter; for if contraction happens on the cessation of stimulation it is easy to suppose that the uterus may contract after death, when the stimulus of life is withdrawn from the muscle, and that the child may be expelled in this way. According to this view, indeed, contraction happens in the uterine fibre, for the same reason that *rigor mortis* happens in muscular fibre generally, and the child may be said to be expelled by the mere *rigor mortis* of the uterus. At any rate this explanation is as intelligible as the other.

LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE "HALF-YEARLY ABSTRACT."

BRITISH.

Annals of Anatomy and Physiology.
Association Medical Journal.
British and Foreign Medico-Chirurgical Review.
Dublin Quarterly Journal of the Medical Sciences.
Dublin Medical Press.
Dublin Hospital Gazette.
Edinburgh Medical and Surgical Journal.
Edinburgh New Philosophical Journal.
Edinburgh Monthly Journal.
Glasgow Medical Journal.
Indian Annals of Medical Science.
Journal of Psychological Medicine.
The Lancet.
London Medical Examiner.
Medical Circular.
Medical Times and Gazette.
Microscopical Journal.
Pharmaceutical Journal.
Statistical Journal.

AMERICAN.

American Journal of the Medical Sciences.
Canada Medical Journal.
Montreal Monthly Journal.
New York Journal of Medicine.
North-Western Medical Journal.
Philadelphia Medical Examiner.

FRENCH.

Annales de Chimie et de Physique.
" d'Hygiène Publique.
" Medico-Psychologiques.
" d'Oculistique.
" des Sciences Naturelles.
Archives Générales de Médecine.
Bulletin de l'Académie de Médecine.
Comptes Rendus.
Gazette des Hôpitaux.
Gazette Hebdomadaire de Médecine et de Chirurgie.
Gazette Médicale de Paris.
Journal de Pharmacie et de Chimie.
L'Union Médicale.
Revue Médico-Chirurgicale de Paris.

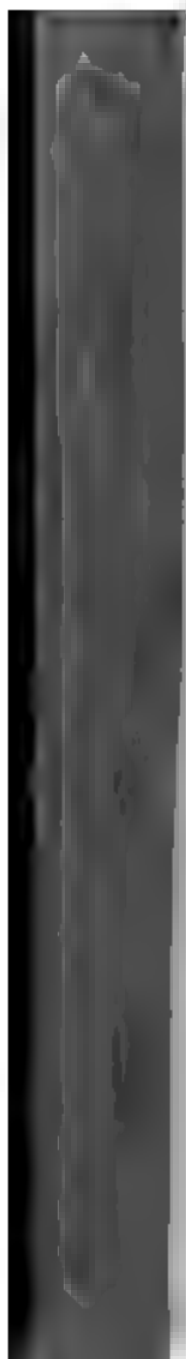
GERMAN.

Annalen der Chemie und Pharmacie.
Archiv für Physiolog. und Patholog. Chemie und Mikroskopie.
Canstatt's Jahresbericht.
Deutsche Klinik.
Monatsbericht der Akademie zu Berlin.
Müller's Archiv für Anatomie, &c.
Schmidt's Jahrbücher.
Vierteljahrschrift für die Practische Heilkunde.
Zeitschrift für Rationelle Medicin.

ITALIAN.

Annali Universali di Medicina.

N. B.—Every periodical here specified is consulted *directly* by the Editors and their Coadjutors.



BOOKS, ETC., RECEIVED.

1. **A Manual of Practical Therapeutics.** By E. J. Waring, M.R.C.S., F.R.I.C. 12mo. 1854, pp. 755.
 * * In this manual the alphabetical order of the materia medica is made the basis of arrangement. The botanical and chemical characters of the various articles are enumerated very briefly, and then the author proceeds to give the therapeutical uses, stating that in such and such diseases, the article has been found useful, and by whom. The work, in fact, is made up of the therapeutical notes of a good and thoughtful reader, and as such it will be found to be a useful companion to the practitioner who is away from his home and library, or who is constantly on the wing.
2. **Transactions of the Pathological Society of London.** Vol. V. 8vo. 1854, pp. 371.
 * * This volume is worthy of the promising Society from which it emanates, as the several notices in the preceding pages will serve to show.
3. **The Book of Prescriptions, containing 2900 prescriptions, &c.** By Henry Beasley. 12mo. 1854, pp. 543.
 * * Under each article of the materia medica, classed alphabetically, and concisely described, the author gives the prescriptions in which the article is generally used, with the name of the prescriber. The work will be found to be a very useful *reminder*.
4. **The Watering Places of England considered with reference to their medical topography.** By E. Lee, 3d edit. 12mo. 1854, pp. 280.
5. **Notes on Spain, with a special account of Malaga and its Climate.** By E. Lee, 12mo. 1854, pp. 144.
6. **Nice and its Climate, with notice of the Coast from Marseilles to Genoa.** By E. Lee, 12mo. 1854, pp. 167.
7. **Outlines of Botany.** By J. H. Balfour, M.D., Professor of Botany in the University of Edinburgh, 12mo. 1854, pp. 616.
 * * This is the most royal road to botanical lore with which we are acquainted.
8. **Principles of Comparative Anatomy.** By W. B. Carpenter, M.D., F.R.S., 4th edit. 8vo. 1854, pp. 770.
 * * This edition is in reality a new work. It is the "Comparative Anatomy" of the 3d edition of the "Principles of Physiology, General and Comparative," extended from 530 pages to 744. and with 300 illustrations, instead of 130.
9. **The Climate of Bath in reference to Pulmonary Consumption.** By J. Tunstall, M.D., 12mo. 1854, pp. 136.
10. **Lectures on the Physical Diagnosis of Diseases of the Heart and Lungs.** By Herbert Davies, M.D., 2d edit. 8vo. 1854, pp. 364.
11. **On the Relations of Uterine to Constitutional Disorder.** By F. W. Mackenzie, M.D. Part I., 8vo. 1852, pp. 117.
12. **A Disquisition on Certain Parts and Properties of the Blood.** By David Tod, M.R.C.S., 8vo. 1854, pp. 263.
13. **On Topical Medication of the Larynx in certain diseases of the Respiratory and Vocal organs.** By Eben Watson, M.D., 8vo. 1854, pp. 183.
14. **Remarks on some Fossil Impressions in the Sandstone Rock of Connecticut River.** By J. C. Warren. M.D. 8vo. Boston, 1854, pp. 54.
15. **Address to the Boston Society of Natural History.** By J. C. Warren, M.D. 8vo. 1854, pp. 48.
16. **Etherization; with Surgical remarks.** By J. C. Warren, M.D. 12mo. 1848, pp. 96.
17. **Medico-Chirurgical Transactions.** Vol. XXXVIII. 8vo. 1854, pp. 264.
 * * Several articles which enter into the formation of this volume are noticed in various parts of our present volume.
18. **On the construction, organization, and general arrangement of Hospitals for the Insane.** By T. S. Kirkbride, M.D. 8vo. Philadelphia, 1854, pp. 80.
19. **Practical Observations on Mental and Nervous Disorders.** By A. B. Maddock, M.D. 8vo. 1854, pp. 236.
20. **Pathological and Surgical Observations; including an Essay on the Surgical Treatment of Hemorrhoidal Affections, and a Course of Lectures on Syphilis.** By H. Lee. 8vo. 1854, pp. 232.
21. **A Manual of Pathological Anatomy.** Illustrated with numerous engravings on wood. By C. H. Jones, M.D., F.R.S., and E. H. Sieveking, M.D. 12mo. 1854, pp. 788.
22. **Lettsomian Lectures on Insanity.** By Forbes Winslow, M.D., D.C.L., 8vo. 1854, pp. 158.

It is truly a splendid work, which more than sustains the credit of author and publisher, and which a person ought to read if he would keep up to the knowledge of the day in this all-important subject.

23. Prize Essays on the Moral Management of the Insane. By D. Tuke, M.D. 8vo. 1854, pp. 119.
24. Report of the Commissioners in Lunacy. Official. 29 June, 1854, 8vo. pp. 328.
25. On some Diseases of Women, admitting of Surgical Treatment. By J. B. Brown, F.R.C.S. 8vo. 1854, pp. 366.
26. An Inquiry into the Pathological Importance of Ulceration of the Os Uteri. By C. West, M.D. 8vo. 1854, pp. 95.

PAMPHLETS.

27. A Memoir on Strangulated Hernia; from cases occurring in the London Hospital. By N. Ward, 1854, pp. 33.
28. On Uterine Polypus; its Nature, Early Detection, and Treatment. By R. Barnes, M.D. 1854, pp. 44.
29. On the Relative Merit of the two operations for Stone. By J. C. Skey. 1854, pp. 55.
30. A Discourse on Medical Botany. By Earl Stanhope. 1854, pp. 47.
31. Painless Tooth Extraction without Chloroform. By W. Blundell. 1854, pp. 64.
32. On the Enlargement of Articular Extremities of Bones in Chronic Rheumatic Arthritis. By W. Adams, F.R.C.S. 1851, pp. 16.
33. The Nature of Morbid Poisons and the Diseases to which they give rise. By R. Craik, Montreal. 1854, pp. 15.
34. The Practical Specific; a new and infallible mode of treatment for Asiatic Cholera. By Dr. F. Wilson, of Mauritius. 1854, pp. 27.
35. Practical Observations on the use and abuse of Tobacco. By J. Lizara. 1854, pp. 15.
36. A Report to the Indiana State Medical Society on Asiatic Cholera. By G. Sutton, M.D. 1854, Indianapolis, pp. 69.
37. On the Wounds of Arteries and their Treatment. By R. S. H. Butcher. 1854, pp. 24.
38. On some rare injuries of Joints, the result of accident and diseases. By R. S. H. Butcher. 1854, pp. 31.
39. First Annual Report of the Norfolk Asylum for the Insane. 1854, pp. 78.
40. Observations on the Cholera as it appeared in Cincinnati in 1849-50. By T. Carroll, M.D. 1854, Cincinnati, pp. 75.
41. The Climate of Madeira. By J. M. Bloxam. 1854, pp. 32.

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